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Foundation of Education



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ESSAYS

ON THE

FOUNDATION OF EDUCATION

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PREFACE.

The aim of these essays is to attempt to define the foundation of education according to the demand of science of today, and according to the necessities of societies.

Intending to write to a diverse public, the author was obliged to stand on a very general ground.

Detroit, Mich., Dec. 4, 1899.

J. G.

INTRODUCTION.

Everything, from the beginning to the end of its existence is surrounded by the tutelage of nature. This tutelage consists in nature's giving to the thing the means for the maintenance of its existence in order to play its corresponding roll in the Universe. These means are the tendency in all things to conserve themselves, further they are the internal faculties and forces of the thing with many external conditions.

On the one hand, natural tutelage produces this benefit: that the external conditions, calling a thing into existence, are mostly adapted for its support; and on the other hand, that all things have given the possibility of best adapting themselves to external conditions, which (possibility of best adapting) causes the development of the different faculties and forces in the thing.

All processes of the generation of things and of their development are produced without their knowledge. Even, in this, man is no exception, because nature calls him into existence and develops all the organs of his body, his faculties and forces, unconsciously to him.

And thus man has no knowledge of his generation; of the processes of the blood's circulation, respiration, digestion; of the processes of his nervous system; he unconsciously adapts himself to climatical and social conditions and develops, as far as he needs, his different faculties. All this is produced in him without his knowledge, on account of the universal tutelage of nature, which wishes to sustain his existence in order that he may play a certain part assigned to him in the Universe. Even if man consciously wishes to adapt himself to something, or to develop certain faculties, his knowledge and will only enable him to submit himself to certain laws of nature, which itself brings about

in him the process of the adaption to something or the development of some faculties; but man is not conscious how these processes originate and are carried on. He is able to understand the different ideas, to conserve, compare, and to reproduce them, to reflect upon them, etc.; but intellectual processes are produced by nature alone.

With the help of his intellectual faculties (and senses) one can observe the proceedings of nature both internally and externally, and because nature proceeds according to certain stable laws, (otherwise it would be chaos) hence, on the foundation of observation, he can formulate scientific principles.

To do so, is nothing else but to discover the laws * of the natural proceeding.

*By the laws according to which nature proceeds, I understand the stable action of nature is the same in the same conditions. On the basis of this stability in nature's proceedings, we produce in our intellect the idea of nature's laws. Beasts are acquainted with some principles of nature's proceeding, as to conservation of

By these discoveries man is able to help nature. To discover these laws is the aim of the sciences. Therefore on the progress of sciences depends the better co-operation with nature in the development of all our faculties, and, even many external conditions, helping in the maintenance of our existence. This co-operation on our part is education, in the general signification of the word. And thus we can educate what is internal, namely: the different faculties and forces in our body, the intellectual faculties, our character, etc. Also, by the investigation of the various natural phenomena and the application of scientific discoveries, man is able to maintain and improve his existence. Social life, to which man is inclined by nature (man is a social being) is also one of the external conditions, which improve our existence. Man, helping nature in this, develops and improves society.

their existence, but they know it only by instinct and do not understand it by mental reflection. For this reason they cannot create science.

To these external conditions, religion belongs also. (Religion has its foundation in our persons.) It brings to perfection the human nature by the strict determination of moral laws, which nature generally determines, and by calling our attention to the Supreme source of laws. In short man cultivates both the internal and the external conditions of life in order that he may bring his existence to the highest possible perfection, for the greater perfection causes greater happiness.

Nature gives to man the ability to bring his existence gradually to perfection that he may be more able to perform his part. (Nothing exists without its corresponding roll, otherwise it would be against universal natural economy.)

The more man understands his part the more he is able to help nature in the development of internal and external conditions ameliorating his existence. And, on the contrary, the less he understands his roll designed by nature, the more he

will place obstacles in nature's way and retard the natural processes of development. These obstacles can be placed in the way of nature only by man himself; other objects cannot throw obstacles in nature's way, because they are not capable of independent action. Nature gives them a tendency to preserve their existence and even forces (nature) them with absolute necessity to perform their parts in the Universe. With man it is otherwise; the more his intellectual faculties are developed and his will is delivered, the more nature gives to him self-dependence not to do what he wishes, but through his understanding to co-operate spontaneously with nature in its proceeding. On the contrary if he throws impediments in the way of nature's tendencies, he loses his self-dependence and nature violently compels him to co-operate with its tendencies.

The result of what I have thus far stated shows, that education is helping

nature in perfecting the internal and the external conditions of our existence on the basis of knowledge of nature's proceeding.

All that belongs to education is included in the above definition, namely: knowledge of nature's proceeding creates intellectual education which is the basis of all education, because no one is able to help (consciously) nature if he does not know its proceeding.

On the basis of knowledge of nature's proceeding we develop the faculties and forces of our own bodies or those of others. This constitutes physical education.

Moral education is the inclination inculcated in man to accomplish his roll in social and domestic life. We understand this roll better after we understand better nature's proceedings and tendencies.

Man is expected to play several parts, as follows: that of an animal, that of unity in the family, that of unity among his own people, and that of humanity in general.

Because nature gives to man a certain self-dependence in accomplishing his rolls (especially in society) therefore he may accomplish them imperfectly or not, according to the tendencies of nature on account of his ignorance of nature's proceeding. If man could perfectly understand nature's proceeding and its revenge (re-action) on individuals and society, on account of behavior not consonant to nature's tendencies and the imperfect accomplishment of rolls, he would not throw obstacles in its way; but because at the present time, man imperfectly knows nature's proceeding, therefore, to accomplish his rolls, he must have cultivated an inclination on the basis of natural feelings.

Since education is based on the knowledge of nature's laws, hence we must now present some ideas of these laws so far as we need for this treatise.

THE LAWS OF NATURE.

The Universe, which is represented to us as existing extrinsically, may really exist as represented or may exist only in our mind as a summary of ideas affected by unknown causes. Or perhaps the Universe exists partly externally and partly internally, that is to say, externally, vibrating atoms may exist, to which we give certain determined forms in our minds. There is no difference for science whatever in either case. Suppose all phenomena are either objective or subjective; or partly subjective and partly objective, it still follows, that these phenomena are exhibited in conformity with certain stable laws, as testified by experience. (Experience may be objective or subjective in nature.)

All phenomena constitute a harmonious unity and totality, as testified to by our natural senses and minds on perceiving the physical, the chemical, the biological and the social phenomena of the Universe.

The mechanism of the celestial bodies proves this very forcibly.

Unity and harmony in the Universe are the sign, that all particular and general data and all particular and general laws are based on the most general datum and law. Only such an arrangement of the Universe is possible; such a regulation helps very much the human mind in discovering nature's laws.

Science can entirely rely upon harmonious unity (totality and order, which are consequences of harmonious unity) in the Universe, even if this harmonious unity (totality and order) represented to our natural senses and minds would not exist externally, but would be imposed by our minds on the Universe. Suppose that our minds impose on the Universe the idea of harmonious unity, (totality and order) then our minds must have certain (external or internal) data, which are able to receive these ideas, because our minds cannot impose the idea of unity, totality and

order on every datum. We see this clearly on the comparison with works of human art. An artist modeling a statue of marble performs the harmonious unity, totality, order, etc., in marble to obtain as perfect a statue as possible. Suppose that the artist's mind imposes all these properties on the marble, which (properties) really do not exist in it; at all events he cannot impose these properties until the material will contain the necessary data required to receive them (properties). In this case the artist sculpturing the statue gradually performs the data. Hence the harmonious unity, totality, etc., in the statue as well as in the Universe will not be deceitful, because the human mind imposes them not on every datum, but on the certain and strictly determined data (which may be ideas). In other words the human mind imposes these ideas according to certain stable laws. Therefore, even if the idea of harmonious unity (totality and order) would be im-

posed by our minds on the Universe, science can entirely rely on it.

The stable laws above mentioned are ideas, which we create on the ground of experience. Experience teaches us, that these and not other data (causes) produce these, but not some other effects; and vice versa, these and not other effects are produced by these, but not by other causes. From this stability we construe in our minds the idea of nature's laws, which, although they do not represent to us the essence of the things, yet they represent the stable relations between causes and effects and among phenomena. These laws are the object of science.

The harmonious unity and totality in the Universe demonstrate that not only the certain, but all phenomena of the Universe must be regulated by nature's general laws. But, although the same general laws govern all phenomena, yet when they specify themselves in the special laws (determining the relations between immediate causes

of effects) they are modifying (general laws) themselves according to the different characteristics of the phenomena. Therefore, although the same general laws are acting in all phenomena, but this action in one kind of phenomena is not the same as the action in another kind of phenomena, yet it is analogical. For instance the same general laws are acting in the physical, chemical, biological, and sociological phenomena (for instance laws of motion) but this action (motion) is not the same in all these phenomena; it is only analogical. The greater the similarity between the different kinds of phenomena, the better is the analogy in the action of different laws.

Man discovers these laws in this manner: through the experience he acquaints himself with the immediate causes of a certain number of phenomena, and with the relations between these causes and their effects. In other words, man, through experience acquaints himself with some particular data and some particular laws

governing these data. After such acquaintance the human mind tries to calculate more-general laws and data, because the knowledge of them helps man to understand better the entire construction of the Universe. But the understanding of the entire construction of the Universe helps to understand better the particular data and particular laws in the Universe. On account of this, science being acquainted with some particular data and laws (governing these data) conjectures more-general laws and more-general data. These surmises are named hypotheses. With the help of hypotheses it is better to investigate and to understand the particular data (immediate causes of the phenomena) and particular laws. In the beginning man, on the basis of insufficient observation, calculates the curious surmises not only of the general data and laws, but even of the particular data and laws, because curious and wrong hypotheses of general data and laws are obstacles, which

hinder the good understanding of the particular data and laws.

The appearance of criticism (under different names) in the history of scientific development, compels man to make new observations and discoveries of particular laws. When these discoveries are made in sufficient quantity, then attention is given again to the discovery of more-general laws and data. Again after a period of time when the surmises of general laws and data are carried too far and become the work of imagination, then it becomes necessary to return to the observation and investigation of particular laws and data.

The returns to particular laws and observations and the returns to the surmises of general laws, which (returns) clearly appear in the history of scientific development, are not always made at once, wholly, but sometimes gradually and partially.

When particular and general laws are

already discovered in sufficient quantity, then the division of science into many special sciences follows, because science cannot investigate all phenomena at once and from different points of view, nor yet investigate at once all particular and general laws, because there is already too much material. On account of that science is divided into special sciences, in each of which only a certain quantity of phenomena from certain points of view, are considered; each science then investigates particular laws on the foundation of the observation. With the more-general laws (and more-general data) mental philosophy employs itself. Before the division of sciences mental philosophy employs itself with particular and general laws and data, but after the division of sciences it should employ itself with the general and more-general laws and data and with the Supreme law and datum. Special sciences in their investigations of particular laws and particular data must

rely, themselves, on mental philosophy, that is, on the general laws and data. As to mental philosophy it must have for its foundation the particular laws and data discovered by special sciences.

Man, by being acquainted more perfectly with nature's proceedings, or with the particular and general laws of nature, can help nature better in the perfection of his existence as to his physical and intellectual development. He also perfects himself morally, because he acquires a more perfect idea of the Supreme source of laws, its uniformity and the most reasonable proceedings in nature. Knowing nature's proceeding, he more clearly perceives its revenge for not co-operating well with its tendencies and for failing in performing his rolls, which he is expected to perform as an animal, as a member of a family, among his own people, as a member of humanity, and as a creature.

The perfection of the internal and external conditions of man's existence is his high-

est aim, because a greater degree of perfection of individuals causes a greater degree of perfection and happiness of society; and a greater perfection of society helps individuals to obtain a still higher state of perfection. Which may be the last aim of the perfection of society and individuals, to which (perfection) the same nature leads, is impossible to say on the grounds of experience. Reason supposes, that the final aim, to which man tends and in which he will find absolute perfection, must necessarily exist, because otherwise our natural tendency to the highest point of perfection and happiness would be unreasonable.

This perfection of the external and internal conditions of human existence is nothing else than helping nature in its proceeding; because, in order to be able to help it, it is necessary to know its laws, for this reason, the basis of all education is the knowledge of the general and particular laws of nature. Knowing these laws, man is able to aid nature in his own develop-

ment and in the development of young people whose parent or teacher he may be. If intellectual education is the basis of all other education, we should consider, first, its fundamental rules.

CHAPTER I.

INTELLECTUAL EDUCATION.

INTELLECTUAL education consists in understanding the proceedings of nature, or in other words, it consists in understanding nature's data, and the laws governing them. These laws appear to us through the processes of the different phenomena. We observe these processes, and on the basis of such observation (and experiments) our reason is able to understand the particular and general laws governing nature, or nature's proceeding. The more one understands these proceedings of nature the more science he possesses.

Humanity acquires the acquaintance of data and the understanding of nature's laws according to certain stable laws, because the scientific development in humanity is a phenomenon, and on the other hand, it is known, that each phenomenon

must be regulated by certain stable laws of nature.

We are able to perceive from the history of scientific development, that the natural proceeding is, that humanity commences its intellectual education from the observation of certain phenomena which strike the senses more forcibly. On the foundation of a little observation of these phenomena, man has deduced some particular laws, and immediately after this he deduced or better surmised (very often curiously) the general laws and data of the Universe. After such speculation man turns again to the observation and the deduction of particular laws. This formulation of particular laws, man is more able to produce after he has some ideas of the general construction of the Universe or of general laws and data. And again, after such observation and investigation of particular laws man turns to the deduction of the more general laws and data, which he can surmise better on

account of a more true performance of observation.

As I have mentioned before, such is the general law of scientific development in humanity. It may be noticed here, that man deduces general laws and general data before the observations have been sufficiently extensive to warrant them. We might think, that such a proceeding is not very reasonable, because man often creates the wrong surmises of the general laws and data of the Universe. But nature does not proceed in the development of sciences in another manner. As we have mentioned before, it compels humanity, immediately after a little observation and deduction of some particular laws, to calculate the construction of the Universe or to calculate the general laws and data of nature. Why? Because speculations (even wrong) of general laws and causes (data) make man more capable to understand the particular laws and the particular data.

Such a proceeding should be imitated in the intellectual development of an individual. Therefore, in the intellectual education, one should, on the basis of some observation, investigate some particular laws and data. On the basis of these particular laws and data he must calculate of the general laws and data or of the general construction of the Universe. After such calculation he should again turn to the observation and investigation of particular laws and data. This second investigation of the particular laws and data should be more special and more strict. The observations and experiments should be broader. In this second investigation of the particular laws and data, the student, having ideas of the general construction of the Universe, will better understand the particular laws and data. After having knowledge of a larger number of particular laws and data, he must calculate again of the more-general laws and data. This second calculation of the

more-general laws and data should be more strict than the first calculation (of the general laws and data). This calculation may be more strict, because the student has a larger knowledge of the particular laws and data. After this second calculation of the general laws and data he should turn again to the observation (experiments) and investigation of particular laws and data. This third investigation of the particular laws and data must be still broader than the second. The oftener one will repeat such turning the better will be his understanding of nature's proceedings, or the more nearly complete his science will be.

Learning should be commenced from the observation of these phenomena, which appeal more forcibly to our senses; these are physical phenomena. Up to this time it has been customary to proceed as follows: to commence by committing to memory the rules of grammar, scientific symbols and formulas, dates, names in

history, etc. All this material is crammed into heads without any or with little order. Such an intellectual education is not co-operative with nature's proceeding. Nature in the scientific development of humanity proceeds in some other way. We should imitate it. Humanity commenced to learn, not by committing to memory rules of grammar, various formulas and dates, but by the observation of nature's phenomena. Scientific rules and formulas were created thousands of years afterwards.

I don't deny that formulas and rules are of great value, but I wish to be understood, that the student should not be compelled to learn by heart those formulas but by experiments and mental calculation he should well understand nature's proceeding in the given phenomena. Rules representing in a brief way nature's proceedings, he should create with his own forces. The instructor's duty is to help the student in this. Such a manner of learning will be

an imitation of nature's proceeding in the scientific development of humanity.

It is a question which phenomena a man, beginning to learn should observe first. I have mentioned before that learning should be commenced from the observation of those phenomena which strike our senses more forcibly; here I add that learning also should be commenced with the observation of those phenomena which tend to help one's reason to form the general ideas of the construction of the Universe. Therefore it should commence with the physical phenomena and particularly the movements of celestial bodies. It may be suggested, that it is too difficult to commence one's learning with the consideration of physical laws (on the foundation of experience) and mechanism of celestial bodies. Allow me to remark, that I do not propose to consider those things particularly, for the beginner and, I do not propose to treat the mechanism of celestial bodies with trigonometry, because this would be impossible in the

commencement of learning. I only propose, on the foundation of some experience, to consider generally, physical phenomena in order to form in one's mind some general ideas of the construction of the Universe and of the forces governing it. Every child, commencing to calculate, is able to comprehend this. On the other hand, this greater utility will be obtained by such a proceeding, that, from the beginning, order and system of great scientific value will be created in one's mind.

So far I have not mentioned anything referring to the learning of languages and religion. The learning of one's own language must be through practice, because humanity learns languages by hearing and speaking, which is practically. Let us imitate this manner of nature's proceeding. I do not say, that an instructor may not give some rules in teaching a language, but such rules should not be given in chaos, but should represent harmony and unity, because we must imitate nature,

the laws of which also constitute harmony and unity. Therefore in teaching a language the instructor should first give the general ideas; the particular ideas, which he gives afterwards should be only an explanation and determination, in particular cases, of these general and fundamental ideas. Humanity first speaks in a manner that represents only imperfectly and simply its ideas and feelings, but after centuries it learns to use a good style and an artistical representation of its ideas and feelings. Thus the beginner should not be compelled to learn at once to speak eloquently and artistically, and he should not be compelled to learn the rules of grammar. This ought to be left for later instruction.

In giving instructions in writing we should also imitate nature. Humanity represents its ideas (from the beginning) not by written words, but by different signs. Therefore the learning of writing should be commenced with drawing different

signs (or objects) representing ideas. After this letters may be introduced.

As to the learning of religion the imitation of the natural proceeding will be this: before learning the different doctrines and rules of any particular religion it is necessary first to form a true idea of God (the Supreme source of laws and basis of all causes). Sometimes it happens, that even some of mature age know by heart many prayers and rules of their own religion, but have not a true idea of God. This is one of the causes of atheism. Such a man, as we have just referred to, hearing afterwards some atheistical phrases, loses all religion and even the principles of morality, because he has not a good idea of the Supreme source of laws and the general basis (natural religion) of all religions. Therefore, although we may teach young people in the beginning some rules (very few) of a particular religion, yet in teaching all the forces of the instructor must tend to form in the student's mind a true

idea of God. A good occasion to give the student a true idea of God as the Supreme and the most general law and basis of all causes and forces, would be when the instructor, on the foundation of experience, represents some physical laws and the mechanism of celestial bodies.

It is impossible to understand reasonably any particular religion without a good understanding of the natural religion, which is the basis of all religions. Humanity, before having and knowing any particular religion, certainly had ideas of natural religion first. The proper time for a reasonable learning of particular religion, is when one studies the history and literature of the world, and when he is acquainted with the general principles of the social sciences. (Religious education will be specially treated later on.)

When one has general ideas of the physical phenomena and mechanism of celestial bodies (all this on the foundation of a certain experience) it is necessary to begin

the study of chemistry. This is a very natural way, because after one is acquainted with the general plan of the construction of the Universe, he wishes to be better acquainted with the material of which the Universe is composed.

The study of chemistry in the beginning should not be treated in a manner that students would be compelled to learn by heart many symbols and formulas of the composition of different bodies. This might produce a dislike for learning especially in a beginner and would not be helping nature in the intellectual development of man. Humanity did not become acquainted at once with the particular compositions, of bodies, but first it had only general ideas of them.

Therefore in studying chemistry it will be sufficient for a beginner to acquire, on the foundation of a little experience, general ideas of simple and composed bodies. In connection with chemistry the general principles of geology in a descriptive man-

ner, should be treated. Here the general principles of physical geography should be also represented.

When a student is acquainted with the general construction of the Universe, as to physical and chemical phenomena, then follows the study of botany. Such an order in intellectual education, I suppose, is very natural, because the development of vegetable life follows the physical and chemical constitution and development of the earth. The student, at the beginning of his education, being acquainted with the construction of the Universe develops his mind, and forms an idea of order. The consequence of this will be, that he will care to learn systematically the principles of the other sciences, as, botany, physiology, etc. With this preparation, the studying of botany which should follow now, will produce better intellectual development. The studying of botany should not be commenced in learning by heart the names of plants, but on the foundation of experience,

the instructor should represent the general principles of the life of plants and of the construction of their living organism together with a brief classification. The names of the principal parts and organs of plants will be memorized by observation, the repetition of different experiments, and by the explications of the instructor. The student, having general ideas of matter, physical and chemical forces, will reasonably study the physiology and anatomy of plants, because he will be able to understand the physical and chemical processes which have a place in the vegetable phenomena. Following this, descriptive botany should be presented in a brief way. The student, having some knowledge of the physiology and anatomy of plants, will base on this knowledge the classification of plants. It is to be remarked that applying many names of plants in descriptive botany produces a dislike in the beginner and compels him to learn forcibly by heart. But forcible learning by heart

always produces a bad influence to the intellectual development of man. In teaching descriptive botany, in the classification and division of plants, the natural proceeding of their development should be imitated, which is to say, that first the inferior organizations of plants should be represented and then the superior.

Now follows the physiology of animals. In this science as in the preceding one, the same manner of learning, for the beginner, should be followed. On the foundation of corresponding experience nature's proceeding should be considered in the life of animals. The student, already understanding the principles of physics and chemistry, and of the vegetable life, will readily comprehend the phenomena of animal life. As to the classification of animals, it should be for the beginner, general, but not particular in this science. In teaching the anatomy of animals the instructor should not compel the student to commit to memory many names of

organs, but only the more important. All reserve forces of the instructor must be concentrated upon the development of the speculative faculties of the student.

The physiology of animals may be combined with the study of zoology. In studying this subject the instructor should not compel the student to learn by heart names of many animals, but all his forces and energy should be directed to the representation of the development of the animal world, the habits and life of animals, their different faculties, (animal psychology) etc. Such a study of zoology, and the psychology of animals will be a good ground for studying the historic-sociological sciences which are next in order. But before we commence to consider the study of history of the world, we will turn our attention to the following:—

Mathematics should be taught from the beginning of the intellectual education and should be correlated with all other subjects, because it is one of the most important

subjects causing intellectual development, and therefore plays a great roll in one's education. One of our fundamental principles is, that science is the understanding of the natural proceeding, or the understanding of laws, particular and general, on the basis of experience. But in applying this experience we must use mathematics, and the better we use it the easier we can discover the particular and general laws of nature, for in nature all is strictly calculated (counted). This accurate calculation (count) in the natural proceeding makes the existence of the world possible. The world could not exist, even a moment if the forces and compositions of matter, exhibited in the different phenomena, would not be mathematically calculated. Therefore in order to understand the natural proceeding, or nature's laws, it is necessary to consider this natural calculation in phenomena. Hence mathematics is of great value in the understanding of nature's laws. On the other hand, the study of

mathematics enables man's reason to understand more easily the particular and general laws, because all particular natural laws reduce themselves to general and most-general laws which are based on the Supreme law, God, (otherwise there would be no universal unity and harmony, and consequently the Universe could not exist). Therefore among different natural laws there must be a certain proportion and analogy as among the different phenomena. In order to catch this analogy and proportion (on the foundation of experience) one's reason must be qualified. Without this qualification the surmises of natural laws will not be very clear; they will be fantastic and curious. In order to produce this qualification in one's intellect it is necessary to develop speculative faculties. The best means for such a development is the study of mathematics, which is based on the principles of logic.

One who has studied mathematics in the

right manner, (with a good understanding and constant reflections) although he may have forgotten all mathematical formulas, yet he will have developed speculative faculties which enable him to think in an abstract manner and enable him to understand and catch the symmetry, proportion and analogy in different phenomena and in laws of nature.

By the above mentioned causes mathematical studies play a great roll in intellectual education. For this reason they should be commenced in the beginning of one's scientific education.

In order to obtain great utility from mathematical studies they should be treated in the most reasonable way. The study of mathematics ought not to be commenced with the learning by heart of formulas and symbols, because such a proceeding neither develops the speculative faculties nor produces real mathematical knowledge. The learning of every mathematical science should be more practical, that is, a student

should understand by the exercises and corresponding explications the proceeding in mathematical operations, and afterwards formulate the principles in his own words. The instructor's duty is to correct the formulas as far as they may be wrongly formulated by the student, and to help to formulate them when the student is not able to do so.

Some educators advise, that geometry and trigonometry should be studied on certain figures, made of wood or wire, in corresponding school laboratories for this purpose. This is very good advice, because such learning is an imitation of the natural proceeding, for humanity began to learn geometrical relations from objects. On the other hand, such learning will interest the students, because they have a proclivity to experiments.

In teaching mathematics with exercises the instructor should give explanations, but to give them in a correct manner is a great art, which consists in giving explana-

tions in harmony and unity. As harmony and unity exist in nature so they must exist in all sciences not excluding mathematics. This harmony and unity in giving explanations requires that the instructor would represent primarily the fundamental ideas; all ideas which he gives afterwards should be only the development and the different accommodations of the fundamental ideas given before. Therefore in all explanations given by the instructor in teaching mathematics the student should clearly see the fundamental ideas, which were given before and which pass through the entire mathematical sciences. At the end of a study of a branch in mathematics the student should not have all principles in his mind in chaos, but he should have them in a symmetrical totality, in which all is connected, making a nice structure, with which the student is well acquainted.

In teaching mathematics it is not enough on the part of the instructor to explain how to perform a mathematical operation, but

also why we perform it so. The answer for the question, "Why?" should not be, "Because there is such and such a rule," but the instructor should analyze the rule (explication) basing all on the last principles of logic and of quantity. In teaching arithmetic it is necessary, from the beginning, to explain which roll the Arabic figures play and why their number is nine and why we have the sign of naught. How would it be, if we would have only four or five figures? This should be explained to the student so that he could grasp the idea. If, by such a proceeding from the beginning, the student will understand how it is, what is artificial in arithmetic and what is natural, then he will readily understand following explications which will be given with every mathematical operation. It should be remarked that, only to know how to operate and in general how to proceed with formulas already invented, is not enough to exercise the speculative faculties. Formulas were not invented at

once but after long mental practice and speculation. As these formulas were invented by the thinkers after much speculation, so a student should produce in his mind (with the help of his instructor) similar speculations and reproduce with his forces the same formulas. Then he will understand if another similar formula could or could not be used. This will be an imitation of natural proceeding in the scientific development of humanity.

With reference to Algebra, it is necessary to remark that because it is the art of calculating with numbers and arithmetical functions by symbols, therefore it needs, in studying it, more reflections than arithmetic. In order to understand algebra and produce the development of the speculative faculties it is not enough to explain some algebraical operations with the remark, "There is such and such a rule," but it is necessary to analyze the rule (as in arithmetic) to the last principles of logic and quantity, and to explain or represent why

it cannot be differently. Someone may be able to operate well with the different algebraic formulas, but not know why the operations are so performed. Although such a knowledge may be good for practice, yet it does not develop the higher speculative faculties of man. We know by experience that in studying science, we must not go too fast. This rule ought to be applied much more in mathematical studies. Therefore the instructor should be patient with the intellectually dull student; it should stimulate the instructor to make his explanations more clear. The effect will be, that the speculative faculties of the student will commence to act. The better a student understands mathematics, the more it should be applied in natural studies

Intellectual education according to our opinion should be commenced in considering physics with special attention in reference to the movements of celestial bodies. Hence some one may question, "Why not commence intellectual education with the

subject that will interest the beginner the most; for instance, the study of plants and animals?" I answer: although these things may be very interesting for the student, yet they will be contrary to systematical teaching. If the instructor would commence with study of plants or animals, it would be necessary to represent principles of vegetable or of animal organism (physiology and anatomy). But is it possible to consider in what vegetable or animal life consists, if the student does not know the chemical and physical processes and has no idea of the general construction of the Universe? Such learning would not cause the understanding of the natural proceeding in the vegetable and animal life. Should some one affirm that it was not necessary to commence at once the study of physiology and anatomy of plants or animals, but in a descriptive manner, to represent customs of animal life and special things about vegetables, because it would interest young people very much, then I would not say

that it was impossible, on the contrary, we should explain all these questions, that the pupil may ask, and which interest him, but every one understands, that this is not strictly a systematical education and for this reason, independently of explications of similar questions, the science of animal and vegetable life should be treated after obtaining some knowledge of physics and chemistry, because it has been shown that to treat it earlier would be unsystematical.

In teaching there should be one principal subject at which the entire work of the student must be aimed, but for variety, something could be added to ease the mind. In like manner with the study of physics (and other subjects which follow) there should be combined the learning of languages (more practical), writing, learning of religion, etc., but all these as secondary subjects, because these subjects will be treated particularly, later. In the learning of languages as a secondary subject the student should not be compelled to commit

rules of grammar, but by speaking and reading the masterpieces he should be drilled in the speaking of one or more languages. Rules of grammar should be treated when the student will consider the natural proceeding in the social phenomena (history) literature, etc. The affirmation, that in studying one must concentrate all his intellectual forces on the one subject and the consideration of others (not directly united with the subject considered) should be only for variety, I suppose, is true, because such a proceeding will cause a systematical formation of ideas in the student's mind, but it is understood that in one's education the fundamental element is system. I have said before, that mathematics must be correlative with all other subjects to the completion of the study of all mathematical sciences. Hence it might be questioned, that in this case the intellectual forces of the student will not be concentrated in one subject, but will be divided. This is not so, because the more a student will know about

mathematics the more he will unite it with natural sciences. Perhaps, at the beginning, for a short time, the student's attention will be divided but, after some knowledge of mathematics will be obtained, it will be naturally united with the natural sciences as it is united with the natural proceeding in the different phenomena. In the explanations of each subject the teacher should not treat the question superficially, but should analyze, make deductions and comparisons, criticise or in other words put into them the philosophical element. The mind of the young student is able to become accustomed to memorial work, from the beginning, or to speculative work, consisting more in the understanding and memorizing of ideas through different associations, but not in the memorizing of words signifying ideas. It is true, that it is easier to be accustomed to study the different subjects and to learn the different principles by the memorizing of words, than it is by memorizing ideas. It is more

difficult to become accustomed to learn by continuous reflections and memorizing ideas, but because the student's mind is able to be accustomed to reflections and the speculative manner of studying, therefore, from the beginning, it is necessary to treat the scientific subjects in this manner. The only difference in students accustoming themselves to this method, is in time. The more able student will accustom his mind to this system in a short time while the one not so able must work longer. To the memorial work he may become accustomed with the least difficulty because, the progress made in learning words and sentences by heart (without reflections upon ideas), depends only on the development of sensitive memory, which develops itself easily by repetition (without reflections). Because real science consists in understanding nature's proceeding, therefore memorizing ideas through intellectual associations, is the best means for acquiring science. The knowledge of sentences

acquired by repeating them in a wandering mind is not the corresponding mean of acquiring science. If a student would be trained from the beginning to look not on the words, but on the ideas, he would exercise his mind in the most reasonable way.

The philosophical element must be placed in teaching not only as constant reflections and a critical element, but also in representing, in the general manner, the different philosophical theories in a manner corresponding to the intellectual capacity of the student. Thus in considering the physical phenomena, the instructor has an occasion to represent some theories of the development (general ideas) of bodies in the Universe and their probable origin.

In studying the physiology and anatomy of plants and animals, the instructor may represent the general ideas of the different theories of the vegetable and animal development of life. This will be a stimulus for the student's mind to great reflections

upon treated subjects; it will cause unity and order in ideas, which the student acquired and, will develop his critical faculties. The instructor should give liberty to the student in carrying out his own speculations, and in criticising them he should not condemn, without consideration, by saying: "This is imprudent" or something similar, because it produces a bad effect in the character of the student, and discourages him in making further speculations. The instructor's duty is to criticise mildly, the student's reasoning by showing the impossibilities and contradictions in his speculations; to help to analyze and construct right speculations. The instructor should not base affirmation on his own authority (using the words, "I say so, I know it") and even not on the authority of others (excluding the cases in which it is impossible to do otherwise) but, in explaining and demonstrating, all should be based on experience, as far as it is possible. After this the instructor may

affirm his explanations or trust to the authority of standard works.

In representing the general ideas of the different philosophical theories, it should be remarked, that the instructor ought to avoid the creating of prejudice in the student's mind against some theories, because this would be an obstacle in exercising the tendency to impartial thinking and would make partialists, for partiality is the great enemy to the right understanding of the proceeding of nature.

We need not be afraid that introducing the philosophical training and theories in one's education will produce a bad influence upon religious ideas. The philosophical training introduces in one's mind the criticism and ability to analyze ideas. This criticism will be the cause of basing religious ideas on the principles of logic and scientific theory of laws. The idea of God based in this way cannot be forgotten or thrown away; it cannot be destroyed by certain phrases. On the other hand,

by criticism, from the beginning of his intellectual education, one will understand the weakness of intellectual, human faculties and, on account of this, he will be more humble in reference to receiving religious ideas. We may be sure, that education without proper and impartial philosophical training will cause a weak faith in the existence of God. This is clear. When a student while studying, for example, natural sciences, hears of matter and energy, he persuades himself that matter causes itself. Without the philosophical training he does not reflect and analyze the selfsame principles of natural sciences and does not speculate with the Universe. His mind not being capable of criticism is accustomed to consider, all, superficially. Although from the beginning, the religious ideas acquired in childhood will have a place in his mind, yet in time they will be dissipated, because they were based only on imagination and memory; but such a foundation cannot re-

sist destruction when the student will consider natural causes of all phenomena. Therefore, the philosophical training, instead of the dissipating of religious ideas, will base them on a strong philosophical foundation. Without such training students become mostly realists believing only in the existence of matter and energy; they do not analyze further, thinking they possess all truth. By philosophical training they will be persuaded, that all human science is not absolute but relative and very much limited, and that intellectual human faculties are very weak. This much of scepticism will cause the development of religious ideas, especially ideas of natural religion. The principles of particular religion, especially Christian religion, based on the principles of natural religion, will also find a strong foundation.

Philosophical training not only helps the development of religious and moral ideas, but also helps the systematizing and uniting of the various branches of science

studied in schools. The question, that representing the different philosophical theories might produce chaos in the student's mind may arise, but instructor's correspondent criticism will help it. The instructor in representing different theories, may properly criticise them according to the system that nature is governed by particular and general laws which are based on the Supreme law. Nearly all philosophical theories may be united in the light of the theory of laws governing nature.

CHAPTER II.

METHOD OF TEACHING HISTORY.

HISTORY of the world occupies itself with the different social phenomena. Because the unity and harmony in the Universe wants all phenomena (not only some of them) to be governed by certain stable laws, therefore the social phenomena must be governed by these laws.

Independently of this argument "a priori" we now have some arguments "a posteriori" because sociologists have demonstrated, that in the same circumstances the same social phenomena appear. They have already discovered certain laws governing the social phenomena. History should furnish material for the investigation of laws governing the social phenomena. For this reason, as far as it represents the political, social and religious events, history is only knowledge giving material for investigation of stable laws

governing all these phenomena, which may be termed in general, social phenomena. If history gives material for the investigation of laws governing the social phenomena, then it should be presented to the student in a harmonious unity and in such a way that he might easily investigate the laws governing these phenomena. To the present time, historical material has been given to the student, containing too many names, dates, unimportant events, with little or no order. Authors of school textbooks in history generally commence history without any connection with other sciences. The student, reading a textbook in history is not able to perceive which are relations among social and other phenomena of the world. Therefore, from the beginning, the learning of history is not systematic. Usually the reader of a textbook (in history) finds not only in the entire book, but from the first pages only names, dates, and enumerations of various facts. There are no ideas based on

facts and dates, but only a non-harmonious conglomeration of historical material, which the pupil is compelled to commit to memory. Such writings of text-books of history can never create in the student a love, but an abomination for historical science. Usually the student who has finished a course in college, although he has learned for some years, history by heart, he does not understand, at all, the natural proceeding in the social phenomena. His memorial knowledge of mixed facts and dates did not develop but dull his speculative faculties. Even the facts and dates that he remembers, he will forget in a short time and will thereafter have an abomination for all historical studies.

Such a proceeding in teaching history is a great danger to society, because man can perform the roll he is expected to play in society better, when he understands the natural proceeding in society better.*

* In order to understand the natural proceeding in the development of society, it is necessary to understand

To study properly,—the historical material should not be given to the student in the manner it has been given thus far. The text-book and the instructor, before representing the various historical facts should give some general ideas of the construction of the Universe, and nature's proceeding in it. He should present some general laws of nature governing all phenomena and, after this, represent how these general laws govern particularly in the social phenomena. He must show, what analogy is between social and other phenomena. By such proceeding he will unite history with the other sciences and will show what relations exist between social and other phenomena.

The instructor should not present immediately the history of some ancient people, with facts and dates, but give some ideas

nature's proceeding, at least generally, in the physical, chemical, and biological phenomena and with this preparation, nature's proceeding in the social phenomena should commence to be considered.

of the beginning of humanity and of the development of social life. Although history does not give sufficient material for representing the beginning of social phenomena, yet this can be helped by reasonable mental speculation. The instructor should give, from the beginning, some ideas of the development of the different laws established in society, of the development of morality, of the development of religious ideas, etc. All this should be explained so, that the student could understand some nature's proceeding in the development of social phenomena. After this, the commencement of representing historical facts of ancient people may follow. Before special treatment of the history of a people, a clear classification of the different nations should be given, as far as it is possible.

In representing historical material the most fundamental element is order. Very often we find that authors of text-books in history treat a period of one nation's

history, partly, then proceed to the history of another nation, and sometimes to a third, each succeeding treatment covering more or less ground than the preceding one. The student reading this conglomeration of different names, dates, and facts of the different nations at the different times cannot grasp the essence of historical events; he learns by heart without understanding.

It is true that sometimes it is necessary to pass from one nation to another, (on account of different relations) but in this case the author should not commence to treat particularly of another nation, but only so far as it is necessary to the understanding of historical facts. The instructor will treat particularly of another nation, when he will have finished with the first nation.

Because the historical material by itself does not constitute the science, but gives only data through which we investigate nature's proceeding in the social phenom-

ena, therefore the instructor should not give very many names and dates, especially to beginners, but he should give only the most important data (the most important names and dates). Of other things he should only treat generally. In representing historical events, the instructor should give attention to the totality of historical events; he should not leave vacant places, but all should be united by facts, and when facts are not given, by a general representation of historical events and the speculative element.

History is divided into three parts, namely: ancient, medieval, and modern. Generally we commence to teach it with the ancient, although we find some authors who advise to commence with the modern. To commence to teach history with the ancient period seems to be a more natural method. The instructor should divide the part of history, which he intends to teach (ancient medieval or modern) in periods, or centuries. (This division is only for the

instructor's own convenience and may not be represented, particularly, to the student before finishing a part of the history. It can be generally said that the teacher divides all history in periods or centuries.) Afterwards he commences to explain the history of a century or period of a certain people. To teach history, as we stated before, is not to give names and dates, but to recreate in an artificial manner the different events, which took place with a certain people in a certain century or period. We know, that today the tendency is to teach on the basis of observation and experiments. In physics or chemistry, for example, the instructor, assisted by the students, makes experiments and urges the student to observe the different phenomena. On the basis of this observation the student acquaints himself (with the help of the teacher) with the natural proceeding in the physical or chemical phenomena.

History should also be taught on the

basis of observation. But the question is, how can the student observe the events in history which happened some centuries ago in the different parts of the world? To help the student in this is the duty of the teacher, who, in an artificial manner, makes (if it is possible to say so) historical events before the class, showing causes and consequences of the different events. The historical events should be represented in a manner, that will absorb the attention of the student. The instructor should not produce many names and dates, especially during the collegial course of study, because the student would be compelled to learn them by heart to the detriment of his speculative faculties. I do not deny, that even a sensitive memory should be developed in a student, but this development should be performed in a natural way. The natural way is to remember the names and dates by thinking without specially learning them by heart. The student will remember the names and dates without

special exertion provided a number of them will be proportional to the amount of historical material given. Very often we find six or more dates with about twice as many names on each page of a text-book. This is not a proportional amount. A larger number of names and dates should be given when the student makes a special study of history (in the university).

When the instructor (or text-book) has represented a century or period of a nation, he proceeds to another nation of the same century or period. After having finished the history of all the great nations of a century or period, he should give the general ideas of the material represented, and then pass to the next century or period and proceed in the same manner. It should be remarked that history should not occupy itself only with kings, their families, names of great statesmen, wars and battles, but it should represent the development of society and therefore it should treat of the customs of the

people, their social and religious ideas, their ideas of art and literature, their private life, etc.; in summary, the teacher (or text-book) in representing historical material should stand on a broad basis. Certainly it is difficult to represent such a large amount of material in harmonious unity, but only such representation of material is healthful to the intellectual development of the student: The student should not be obliged to learn by heart all the names of kings, because kings do not constitute the history.

In teaching this subject geographical maps are necessary, by the use of which, the student could better understand the historical events.

We mentioned before, that historical material does not constitute science in a strict sense. It is only a basis on which we may investigate nature's proceeding in the social phenomena, or nature's stable laws. On account of this, the instructor, in representing historical material, should show

these laws so far as they are discovered by science to the present time. He should request the student also to investigate these laws. He should criticise, moderately, the wrong speculations of the student and aid him to make further speculations. The examination of students, according to my opinion, should not consist of questions like these: "What happened in such a year?" "In what year did this event take place?" If the student is examined in this way, he will not regard the totality of historical events. The student should represent with his own forces the historical action, with consideration of the natural proceeding, in a similar manner to the representation made by the instructor. It is the instructor's duty to correct and criticise.

The examinations during the scholastic year should be made by the students so as to recreate a period or century of historical events of a given nation in a similar manner as it was presented by the instructor. The student should logically represent facts

(with principal dates) with their causes and consequences and with remarks on natural laws governing them. He should not work so much through memory, in representing events, as through the speculative faculties, because the aim of a historical education consists in the understanding of the natural proceeding in society. In representing events, the student should find not only the immediate causes which produce the event, but also the most elementary causes which took place sometimes centuries ago. This should also be observed in the representation of not only immediate but remote events.

In order that the student will be able to recreate the historical events in this manner, the instructor should, in recreating historical material, be cautious that his representations will be not only vivid, but also very logical and clear. In representing history the time of events should be strictly observed, because the time of events helps very much to understand the social laws.

But in order to be strict enough in teaching history it is necessary not to give too many dates, because too many dates do not help to understand nature's proceeding in the social phenomena, but are an obstacle. Having too many dates before our eyes we are absorbed in them and therefore cannot consider the laws of nature.

To be sufficiently strict in representing these events, college text-books, and the instructor should give only dates of the most important events. Other events may be determined by centuries or half centuries.*

The student will remember, by the laws of mental association, and historical consequences, the time of events if the material is given in harmonious unity.

*Dates of least important events are necessary to the historian's investigations, but not for the student who, during the time of his collegiate course in reference to the history of the world, wants to be acquainted with historical material (prepared for this purposely by specialists) in order to have some ideas of nature's proceeding in the social phenomena.

To create in the student's mind harmonious unity among ideas representing historical events and nature's proceeding, it will be necessary, before the commencement of a part of the history to give a general sketch of the events of the history as a whole, and after this sketch (not so general) of the events of that part of history which the instructor intends to take first. When the student understands these sketches and afterwards hears the events, he will have a tendency to place them in order, according to the given sketches, which will be a great help to him in creating the harmonious unity previously mentioned. Both in sketches and in the entire historical material all ideas should be based on some principal ideas, which (principal ideas) should be based on the one sentence representing, in the shortest way, nature's proceeding in the social phenomena.

In order to have good effects upon the intellectual development, the studying of ancient languages should be introduced af-

ter the student knows something about history and literature. This is also the proper time to commence the particular study of grammar of the different languages. After the student is able to comprehend in what speech consists and how it is developed together with the intellectual development of nations, then he will be able to understand more logically the rules of grammar.

In connection with the history of a nation the general ideas of its literature should be given. (It is well to present some fundamental ideas of the grammar of the different nations' languages). Because Greece and Rome played an important roll in the history of nations, therefore their languages should be treated more especially.

During the present age the Latin and Greek languages have many enemies who wish to exclude these subjects from the course of study in our colleges and high schools and many of these enemies are scientific authorities. The cause of their

enmity arises from the fact that hitherto these studies have not been guided in a proper manner. Usually students are compelled (even during the first years of their language work) to commit to memory many irregular words, special rules of grammar, exceptions, and often extreme requests are made in translating authors. Therefore to satisfy the wishes of the instructor, the student is required to commit a large amount of material. Such proceeding depresses the speculative faculties and does not even render him capable of speaking the languages.

The intellect of a young man under the influence of natural tendencies wishes to calculate and discover the laws of nature, (governing the phenomena of language) but not to commit to memory material, which in itself does not produce science. Such a mode of teaching languages caused a re-action against Latin and Greek. If these languages would be totally removed from the course of study in our colleges, it

would be a great detriment to the intellectual development of the student.

The phenomena of human speech and the productions of literature considered in the right manner educate the intellect very much, because they furnish material for the investigation of laws governing the social phenomena. Therefore the studies of ancient languages, especially that of the Romans and Greeks cannot be excluded from the course of a general education. The fundamental aim in teaching Latin and Greek should be to make the student generally acquainted with these languages so that when translating Latin or Greek authors he will comprehend the spirit governing these nations, (their thoughts and feelings) how they expressed themselves, the interior structure of their style of language, etc. It is certainly necessary that some grammar should be taught, but never so theoretically nor so memorially as customary in some schools of today. These languages should be treated from historical

and literary points of view in order that the student would understand nature's proceeding in their development. This will help the pupil to understand nature's proceeding in other social phenomena. Special training in grammar and the acquisition of particular knowledge of authors should be left for the specialists, who will study this in a special course.'

If one desires to prepare himself to speak these languages he can do so without a very close theoretical study of grammar by rules and exceptions. He may learn by practice as the modern languages are learned according to the method of Ollendorff or similar methods of other authors. By such a method of studying, grammar is also necessary, but not to such an extent as has been customary to the present day. (Even with all this preparation the student, generally, is not able to speak Latin and Greek fluently); to the extent that the student is able to understand some authors, is sufficient.

The more special teaching of grammar may be commenced after the student is able to read one or more authors with understanding. In short, in the learning of languages nature's proceeding should be imitated. But nature's proceeding is such; man speaks before he studies the grammar of his mother-tongue. Why should not the student, who wishes to speak Latin and Greek languages, imitate this method?

If one does not wish to acquire the ability to speak these languages, but only to consider them as material for the investigation of nature's laws, he should adopt the above mentioned method. In reference to studying literature, it should be partly combined with the study of languages and partly with that of history. The teaching of literature does not consist in requiring the student to commit to memory the names of many different authors, many dates, and titles of their works.

Very often we find men who, in speaking, always cite the titles of the different

works of different authors, names, dates, etc., but they do not understand nature's proceeding or laws which guide the development of literature. The aim of studying literature is to investigate what influences produced the great works of authors and what influence these works had on the people. And further, the aim is also to consider through these works what were the common ideas, feelings, customs, etc., of the people at that time. On the basis of these investigations the student of literature should speculate on the stable laws of nature governing these phenomena.

The names of principal authors, and titles of their works will be memorized more readily by the method I just referred to.

It should be remembered that it is with this science as it is with all others; that all ideas represented by the instructor should not be given in the chaos but in a harmonious unity, which consists in giving the general ideas (which are the skeletons of science) so that they will appear in all oth-

er ideas and explications given in teaching the entire science.

Literature treated otherwise may prepare the student to know, chaotically, names of authors, dates, synopses of different works, but it will not prepare him to understand the natural proceeding in the literary phenomena, and with time, he will forget the names, dates, and even the synopses of various works, because it was mere memory work.

CHAPTER III.

RELIGIOUS EDUCATION.

SINCE mankind had natural religion before having a particular religion, therefore it should be taught before any particular religion, because natural religion is the basis of all particular religions.

Man acquires an idea of God on the foundation of the idea of causality through his intellectual faculties. (I don't deny that God could help man in this extraordinarily.) Man on perceiving the different phenomena, which impress his senses with their beauty and power, on the basis of the idea of causality, supposes a Supreme cause of these phenomena. This cause he terms God. Such speculation is not wrong although some philosophers teach that the idea of causality being of a subjective nature makes the argument of the existence of God also subjective. Even if the idea of causality is subjective, the argument of

the existence of God will be of scientific value. It may be proved in the following way: suppose that the idea of causality is subjective and we impose this idea to some data, which we consider as a cause and effect, still we cannot impose the idea of causality to any one of the data and according to any order we wish, but only to certain data, according to certain stable order and certain stable laws. But all investigations showing the stability of order or of laws have scientific value, therefore an argument proving the existence of God (argument based on the idea of causality) has scientific value.

Independently of this argument all sciences of the present time prove the existence of God indirectly. Sciences of today are very much persuaded, that nature constitutes a harmonious unity and that in it govern certain stable laws (otherwise harmonious unity in nature would be impossible). The investigation of the stable laws governing nature, science considers

as its highest aim. But if we suppose the existence of the particular and general laws, we should also suppose the basis of all laws (the Supreme source of all laws) to which (basis) all reduce themselves and of which they are representations, otherwise harmonious unity in the Universe would be impossible. But without supposing that the Universe is a harmonious unity, stable laws and system in the Universe would be impossible, hence science would be impossible. Therefore, science (being based on harmonious unity of the Universe) proves indirectly the existence of God, and for this reason it confirms what man has always believed.

Such inspiration in the science of today will help greatly the religious education if it will be treated according to a corresponding method.

Religious education, scientifically treated, should be commenced from the beginning of one's (scientific) education. It should be correlated with physics (and other

studies that follow physics) as a secondary subject. The science of religion should be treated more particularly after the student understands the natural proceeding in the social phenomena. As I have mentioned before, with the study of physics (and other subjects) some philosophical ideas of the system of laws governing nature and of the Supreme law on which all laws are based and of which they are representations, should be given. This idea should be placed in one's mind in the beginning of his scientific education. The idea of God placed in one's mind in such a manner will also aid the scientific education by systematizing and uniting the ideas of the different laws of nature.*

*"Someone may say that the religious education scientifically treated should not be commenced by placing, in the beginning, the idea of God in one's mind, because this idea according to the doctrine of Kant being of subjective nature cannot give the scientific foundation for the religious education. In reply to this, I will say, that the doctrine of Kant whether right or wrong in this point, is not against the doctrine that the idea of God, as a Supreme law, is not of a subjective

The teaching of a particular religion cannot be commenced with advantage in the development of the intellectual and moral faculties before a true idea of God (Supreme law) is placed in the student's mind. Therefore natural religion should be taught before a particular. I have mentioned, that the teaching of natural religion may be commenced at the beginning of a scientific education and treated comparatively with other subjects, but in some schools the instructors teach the Holy Scriptures in the beginning of one's religious education. Such instruction does not

nature and has scientific authority. This may be illustrated in the following manner: All arguments of Kant showing weakness and subjectiveness of arguments proving the existence of God, reduce themselves to the fact, that between concrete beings and the Absolute Being there is a bottomless abyss. On the other hand we judge according to principles, which refer themselves only to concrete beings. When we demonstrate the existence of God we make a terrible leap from the concrete things to the Absolute Being and we judge of it according to the principles, according to which we judge concrete things. On account of this our judgment (of the existence of God) cannot have a scientific

produce the intellectual and moral development, because the student has not yet a good idea of God. He knows nothing of nature's proceeding in the social phenomena, and on account of this he is not able to understand, which roll the Hebrews played in the development of societies and which roll Christ played in the history of the world. For this reason the learning of the Bible from the beginning of one's religious education causes neither development of the intellectual faculties nor does it produce real religious education. Some one may remark that students are sufficiently ac-

cal value. Therefore the existence of God can neither be proved nor disposed, but we should accept it. This doctrine does not attack the objective and scientific value of the idea of God as a Supreme law, because when we consider the physical, chemical, biological, and sociological phenomena, we perceive the stability of action in them; on the basis of this stability we construe in our minds the different laws of nature. Therefore these laws which are the object of science represent something absolute and stable but not concrete, because the action in nature on the basis of which (action) we construe ideas of laws is also absolute and stable. (Concrete things, or phenomena are not the

quainted with the idea of God by their domestic education and for this reason are able to study the Bible. In reply I would say, that although young people are taught, by their parents, of God as the Creator, Our Father, etc., yet all these ideas are not placed on a scientific foundation, but on natural feelings and memory. This is not sufficient preparation. I suppose atheism is partly caused by not training the child in natural religion and not forming the idea of God on a scientific basis. We may find many who have studied the Bible for a long time in their childhood and youth

object of science but they are the only material through which we discover nature's laws that are the real object of science.) Therefore laws of nature represented by the different sciences show something absolute and stable, otherwise science could not exist. By this, it is clear, that when we consider nature's laws (even the first principles of physics) we make at once the leap to the Absolute. If we would not make this leap we would consider only the concrete things, phenomena, which in themselves cannot be the object of science because they are changeable. Through these changeable phenomena we perceive the proceeding of Absolute, which (proceeding) we consider as the different laws. If we

and who know by heart a large portion of it, who know the principles of Catechism of a particular religion, many prayers, etc., but do not believe in the existence of God. On account of this, very often, their morality may be weak.

They lost the religion, they acquired in their youth, because it was not based on a strong scientific foundation. They did not receive sufficient instruction in regards to natural religion. All religious principles, they had learned, were based on natural feelings and memory. Undoubtedly they were religious during their childhood

would not take this leap science would be impossible, as we have previously stated. Afterwards when we consider that the different particular laws are a representation of the general laws and that the general laws are representations of the Supreme law, or in other words, that all laws are a representation of one Supreme law (otherwise harmonious unity in nature could not exist) we do not make more leaps, but only suppose the existence of an absolute basis of all absolute proceedings (nature's laws) because it wants the idea of harmonious unity in the Universe, but this idea has the scientific value as has been demonstrated before. Therefore the doctrine of Kant, even if it shows weakness and subjectiveness

and youth but when they reached a more mature age and heard phrases similar to the following: "Matter causes itself," "The Holy Bible tells absurdities," "We have no justice in the world," "Religion is a humbug," etc., they lost all religion. It could not be otherwise, because their religion was based on the natural feelings of their youth.

When they launched into the World, or perhaps, when they commenced to study the natural sciences (where they heard only of matter, forces, energy, etc., and did not think of the entire construction of the Universe) their feelings became changed and their ideas of religion also became changed or were lost entirely, thus they remained without religion. As we see, domestic re-

of the different arguments proving the existence of God and denies their scientific value, it does not refer to the idea of God understood as a Supreme law, because such an idea is something objective and has scientific authority. For this reason scientific religious education should be commenced by forming in one's mind the idea of God as a Supreme law. Having such idea it is easier to determine other attributes of God.

ligious instruction is not sufficient foundation to prepare one for the study of the Bible and any particular religion. For this reason, before the student will study the Bible or some particular religion in school, he should be trained from the beginning of his intellectual education in natural religion. Physics (especially the mechanism of celestial bodies) is the first good occasion for representing the idea of God as a Supreme law and the basis of all laws. All natural sciences are very good material and give a splendid occasion to teach natural religion and morality. The best occasion to teach natural religion and morality is, when one considers, in the proper manner, the social phenomena, (history, literature, etc.,) because by this consideration he will comprehend the different reactions, revenges upon individuals and societies for not co-operating with nature's tendencies.

When the student understands nature's proceeding in physical, chemical, biological

(Psychological) and social phenomena, then it is time to teach particular religion (as a primary subject) and the Bible. Some one may find fault with this method and question: "Why not teach particular religion during childhood? It is easier to seminate moral and religious principles in the child's heart than it is in after years during the period of youth." In reply to this, I would say, that we should seminate some moral and religious principles, but we should teach more natural than particular religion, because the child will not comprehend the principles of particular religion until he understands the natural proceeding in the different phenomena. The child will learn these principles without criticism and understanding but only by memory. It is true, that the child cannot very well understand even the principles of natural religion in a manner having scientific value, because he has not considered, thus far, the laws governing phenomena; but in all cases the child's mind is more disposed to the

understanding of the principles of natural religion than to any particular religions.

In conclusion I will say, that the child may be taught the principles of a particular religion to a reasonable extent and not in a memorial manner.* The proper time to teach particular religion can only be after the student understands nature's proceeding in the different and, especially, the social phenomena, and, when by his education and philosophical training, (the reader will recall that I have said philosophy should be combined with all subjects) he will know that human science is very much limited and that the intellectual faculties

* When we examine the child in order to find out how much knowledge he has of his particular religion we will find, that all he knows is what he has committed to memory. He does not understand the different doctrines and precepts, but recites them mechanically. This is mostly the fault of the teachers. In order to have the child learn the principles of a particular religion profitably, the teacher should, in his explanation, be careful to found them on a scientific and logical basis. This is easier for the teacher when the student understands the principles of logic, of natural religion and is acquainted with nature's proceeding in the different phe-

are very weak. This kind of intellectual scepticism will fit one to accept revealed Christian religion. Such a method employed in learning religion will cause the benefit, that the student will not be a partialist. His religious education according to the above statement will be free of fanaticism and his reason will try to understand the different rolls played by the many religious sects and on account of this he will be able to co-operate with nature in the development of society's perfection. The greater the number of men so disposed a society will contain, the shorter time this society will require for its development, and the weak-

nomena, (on account of this, I repeat that the proper time to learn a particular religion is when the student has some general education), but because the child is not acquainted with all this, therefore, the teacher, when making explanations should construct a basis in the child's mind by representing in a clear, simple manner by simple comparisons, some scientific date necessary to form a foundation. All explanations should be proposed to the child's speculative faculties more than to his memory. The different enumerations should be given to the child in a manner so that he is not compelled to learn them by heart.

er the reactions and disturbances will be. In conclusion we will return to further discussion of the idea of God.

As we have mentioned before this, the most important thing in the child's religious education is to place a true idea of God in his mind, on a scientific basis. In order that such idea could resist the different atheistical phrases, from the beginning of a religious education, the teacher should try to develop criticism by which the child could resolve those phrases. Thus, for instance, the phrase that "ether is the principle creating matter and spirit" which, if heard by a non-critical man, may destroy his religion. On the contrary, if one has some philosophical training and criticism he will see, that if ether is matter, it is composed of vibrating atoms; but vibrations submit themselves to certain laws based on the Supreme law. Therefore, if ether is matter, it is not the first principle and the beginning of matter and spirit, because it submits itself to certain laws. If ether is not

matter but spirit and does not submit further to something because it is Supreme law, it is really the first principle and the beginning of the Universe. But in this case, why call this first principle ether? The proper name for this, is Supreme law,—God. In order to resolve similar phrases, it is necessary, to train the child in critical philosophy.

CHAPTER IV.

INTERNATIONAL AND CIVIL LAW.

THE principles of international and civil law should be included in the course of study providing for a general education. In some schools (in the United States in all public schools) furnishing a general education some principles of civil law are taught but often with imperfection in the respect, that all law instructions reduce themselves to a certain quantity of constituted paragraphs and formulas, which the student is requested to commit to memory. The instructors do not attempt to make the student understand that all human laws are a continuation of natural laws.

We can easily discern that all human laws are nothing else, than particular determinations, made by man (legislators), of nature's tendencies in the development of social phenomena. Nature, promoting society continuously to a higher degree of per-

fection, determines in a general way the relations between different societies and between individuals of each society, and this is natural law. Particular determinations of relations in societies and between individuals of each society, nature leaves to be executed by man whom it permits, voluntarily, to co-operate with itself. These particular determinations made by man constitute all human laws, which classify themselves into international laws, determining relations between different societies, and civil laws, determining relations between individuals of each society.* On account of man's not understanding, at once, nature's tendencies in society, in performing particular determinations of nature's tendencies in them (in making laws), he does not perform them at once perfectly, but imperfectly. With

*All human laws have various terms, as for instance, international, civil, ecclesiastical, according to the kind of relations in society they determine, and who is their legislator.

time he corrects them and by their correction he causes the development of human laws. Man is compelled to correct laws by the various reactions in societies performed by nature, which, by these reactions, gives to man occasions to better understand its tendencies.

In the development of human laws, as we can perceive by the history of human laws, there are turnings to the better performing of determinations to more particular and to more general human laws. In other words, at one time societies occupy themselves more with particular civil laws in order to determine relations between individuals in societies, and at another time man occupies himself with general laws determining relations between societies.

Man is able to make better determinations of relations between individuals and societies or, he is more able to make better human laws, when he better understands nature's tendencies in promoting societies towards perfection. This under-

standing of nature's proceeding makes man able to criticise all human laws and to see their imperfection. Every citizen should be able to do so. But to enable the citizen to see nature's wishes and to see if accepted human laws well determine the wishes of nature, it is not enough to compel the student to commit to memory constituted paragraphs of human laws. But it is necessary, through the study of the world's history and the laws of different nations of ancient, medieval and modern times, to give the student to understand how near, in the different times, man was right in determining nature's wishes, and what reactions in society were caused by nature on account of imperfect legislation. With such preparation the student should commence to consider the laws of his own country in order to perceive if they determine well the wishes of nature (according to the roll which his country plays among nations). Such a study of laws will educate the student

very much and will prepare him to be an excellent member of his country and humanity. But the question, that such studying needs much time and is only necessary for a special education in law, but not for the student of the public school, may arise. In reply to this question we may say: First, the study of the world's history, including literature, according to our system, will itself give a foundation for the study of the principles of law, because in the world's history and literature, ideas of the development of laws by the different societies are given; Second, philosophical training and the entire intellectual education, the aim of which is to cause the understanding of nature's proceeding in the different phenomena, will enable the student's mind, very much, to comprehend the wishes of nature as to the relations between societies and individuals of each society.

Systematical teaching by itself will help very much this manner of studying law.

Very often it appears that a long time is needed for the study of some subjects on account of, that, in the intellectual education, system is not observed; but when all subjects are systematized and based on a small number of ideas, then it is much easier to study the different subjects.

The study of civil and international law, of which it is necessary to represent fundamental principles in a general course of education, will take little time, because the ideas in this study will be correlated and strictly united with the ideas given in the study of other sciences. To become a specialist in law, a longer time for studying is required, but we do not here refer to a special law education, but only to a general education.

A student who has acquired in the public school fundamental ideas of natural and human law and some special knowledge of the laws of his own country, will easily become acquainted in his future life, more exactly, with the laws of his own country,

which he will comprehend with criticism. Those who will have intentions to make a special study of law in universities, after having a general law education according to the method above mentioned, will study law with great benefit to their own intellectual development and to the future development of society.

CHAPTER V.

FINAL REMARKS RELATING TO INTELLECTUAL EDUCATION.

INTELLECTUAL education, in the manner we have attempted to represent it, is the understanding of nature's proceedings in the different phenomena. An educated intellect may understand this proceeding in all phenomena of nature, more or less exactly and clearly. In the first case one's general education will be more complete, and in the second not so complete, but in either case a general education should represent a harmonious unity. This means, that all ideas in an educated intellect representing nature's proceeding (laws and data) should be in the same order as the laws and data are in nature. But in nature particular data reduce themselves to general data and the general data

to one—the most general datum;* and the particular laws reduce themselves to the general laws of nature, which laws are based on the one Supreme law.

However incomplete one's understanding of nature's proceeding may be, if the ideas representing laws and data in nature will only be placed in his mind according to the above mentioned harmonious unity, he will still possess a scientific education. But if the ideas will be placed chaotically in one's mind and, for that reason, will not represent harmonious unity in nature, then the understanding of nature's proceeding will be very weak. It would be worse if one's intellect would be full, not of ideas representing nature's data and laws, but of material consisting of beautiful phrases, names, dates, etc. However large the

* The human mind does not doubt that all material in the Universe (simple bodies) are representations of one only fundamental material. With the progress of chemistry we hope it will be demonstrated, but thus far it is only probable hypothesis.

quantity of such material in one's mind might be, yet it would not constitute a deeper scientific education, but merely a certain superficial knowledge.

I don't deny, that one might have a large number of names, dates, formulas, at command and still be a highly educated man, but even in this case all his knowledge and details would be based on the one uniform, harmonious ground of laws and data in nature. Such a man understood, in a general way, nature's proceeding, and by studying, he understood it more and more exactly with time. It is possible to distinguish, at sight, such a man from others, who make an exhibition of their knowledge of details, dates, names and quotations, because we can perceive that under all this superficial knowledge there is not a harmonious ground. All this material is held in the memory as a bird in the air. When speaking, such men, termed educated men, leap from one subject to another and always contradict

themselves, especially when speaking of the more fundamental principles.

Although one possesses only a very general and not a complete education—that is, when he does not exactly understand nature's proceeding in the different phenomena—yet when his ideas will constitute a harmonious unity similar to that in nature, his education will be deeper, if not so strict. A man, having such an education, is able to help nature in the perfection of his own life as well as that of others.

The author, seeing the necessity of a harmonious unity in intellectual education, (and in all education) grouped the principle subjects included in the course of a general education according to the order, which seemed to be very natural and best adapted for creating harmonious unity of ideas in one's mind.

The different subjects belonging to the course of a general education were not

specially treated, because it was not thought necessary for the limits of this treatise.

Regarding the manner in which the student should acquaint himself with nature's proceeding in the different phenomena (to acquire science) it is also necessary to imitate nature's proceeding in the intellectual development of mankind. Nature, as mentioned before, proceeds in the following way: mankind being acquainted with certain particular laws and data of nature, instantly speculates with more general laws and data, and with the most general law and datum, thus creating a more or less true theoretical system of the Universe. After this work mankind turns again to the investigation of particular laws and data in nature and when this investigation is performed with more strictness, it again speculates with more general data and laws. On account of the better investigation of particular laws and data, the speculations will be more correct. In one's scientific education such proceed-

ing should be imitated. Therefore when the child is old enough to commence his scientific education, he should begin with the study of physics with special regards to the mechanism of celestial bodies. It is necessary, on the foundation of some experiments, to represent to the student some particular laws and data (the most important) and, on the basis of represented laws and data, to help the student in performing speculations of the more general data and laws and the most general datum and law. From the beginning of intellectual education, this will introduce in one's mind, system. Such speculations should be carried out in teaching all subjects, not only in physics; and especially after completing one subject, (we'll say physics or chemistry) when the student proceeds to the study of another subject, so as to unite the ideas of the science just studied with the ideas given in the science that follows in the course. After finishing all subjects belonging to the course of a general edu-

cation, one year only should be devoted to the study of philosophy and during this year the student should occupy his time with the consideration of the most general laws and data and the Supreme basis of all laws and data,* (speculative theology).

This should be the course of the primary schools during a period of not more than eight years, which course every citizen should finish in the first fifteen years of his life. All this we have mentioned belongs to a scientific education, which is only a part of a complete education. Another part of a complete education consists in training the child in the arts, which we will now treat so far as it is deemed necessary in this treatise.

It is not necessary to demonstrate that arts, both of use and beauty, play a great

*Ethical sciences will also be included as belonging to philosophical sciences. In the general course we have united with history the teaching of religion and moral education, about which we will speak later.

roll in the development of individuals and entire humanity.

The artist cannot have any other aim than on the foundation of the understanding of nature's proceeding, to help nature in the perfection of our existence. If the work of art aids in the perfection of the physical side of our existence then this work belongs to the so called useful arts, as, for instance, a machine, a bridge; if the work of art aids in the perfection of the intellectual and moral side of our existence, then it belongs to the beautiful arts, as, for instance, a musical composition, a picture, a poem, a sculpture, etc. A work of art may be both beautiful and useful.

Every artist before commencing to create a work of art should understand nature's proceeding, at least in a certain field and, on the basis of this understanding of nature's proceeding, he will imitate nature on the canvas, or in some other manner. But by this identical imitation of nature's proceeding, which shows itself in every

step, he could not create the higher work of art. What therefore does a real artist produce? He not only slavishly imitates nature's proceeding, but, in his work, he shows something clearer that is not shown so clearly in nature (at least it is not so clear to everyone). Similiar to this, on the foundation of nature's proceeding (natural laws) a legislator defines more clearly, that which nature did not show so clearly. As a legislature, by creating good laws, helps nature in perfecting our existence, so an artist, by creating a good work of art in which he shows more clearly that which nature did not show so clearly (at least for the average), helps to perfect us, teaches and discovers what is not visible to the average man.*

But here is not yet the limit for the genius of an artist because there is only an imitation of such law and data in nature, which are not clear to the average man,

* Such work may belong equally as well to the useful as to the beautiful arts.

but to the artist it is clear and on account of this his work is but an imitation. The artist goes further, especially in the beautiful arts; he creates such things which do not exist in a manner that the artist represented them. Nevertheless these works of an artistic genius are according to the tendencies of nature because, although in these works is such an exaggeration that something similar could not exist in nature, yet this exaggeration must play its roll, must produce a reaction, and for this reason improves humanity at the time being.

I do not try to write herewith a special treatise about arts; but only try to illustrate some fundamental ideas necessary in making certain conclusions, at the close, in relation to educating a student in arts.

I hold to two ideas in relation to arts. The first is, that, in creating the works of art, it is necessary, to understand nature's proceeding and the second is, that an artist, on the basis of this understanding in his

work shows something clearer than it appears to us in nature. In nature it exists, but it is not visible to the average man. The artist perceives it and makes it clear. Sometimes in representing some of nature's proceeding he makes such an exaggeration, that nothing correspondent in nature exists. This exaggeration rises from the spirit of the time and designates what roll the work of art should play in society.

Because the arts are phenomena in society, and because all phenomena are regulated by certain stable laws of nature, therefore phenomena of arts are also regulated with these laws.

The most fundamental laws governing the phenomena of arts should be the same as the most fundamental (general) laws governing all social phenomena. These laws in the scientific development of mankind appear in such a manner that there are turnings to the consideration of the more and the most general laws and data in nature, which turnings may be called

idealistic; after this follows the study leading to the investigation of particular laws and data, which may be called positive. These are two extreme sides of scientific development and they should have their means.

The criticism, which appears in a greater or less degree, is a motive to compel man to make turns of one or another kind. By such steps, develops the intellect of mankind. In the development of societies these laws appear in such a way, that, at one time, they compel man to turn his attention to international affairs then, after a certain period of time, to the more particular affair, as of individuals, of families, the aim of which (affairs) is the welfare of one's own country. These turnings do not always come at once and on a higher scale, but very often partially, and on a lower scale.

Because in society as well as in the entire universe there is a division of labor, hence during a certain turning in societies, in one

society this turning appears on a greater scale and in another on a smaller scale relatively to which nation plays at this time the greater roll according to the division of labor in humanity.

Because arts are phenomena in society therefore they should be governed by the same general laws, that govern all social phenomena. And in reality works of art, having very important means in helping nature in the continuous development of societies, they represent to us through literature, sculpture, paintings, music, etc., of that time, what turning took place and what roll arts then played. On the basis of what we have said, let us consider how the student should become acquainted with arts in school.

In reference to arts, a student in the course of a general education, should understand (as to the theoretical part of arts) the different missions which they played, in every respect, during the entire time of their development. The pupil should ac-

quire fundamental ideas about this by studying history and literature, but that is not enough. In the schools a certain time should be consecrated to the history of the development of arts (as a secondary subject). Pupils, already acquainted with history and literature, should attend lectures on useful and beautiful arts, having in sight the principal copies of pictures, sculptures, etc. (In regard to music and theatre they should hear and see reproductions of the works that took place at the different times)*. By consideration of the different works the students will understand better, nature's proceeding in the development of social phenomena; they will perceive that a larger re-action in society required greater help on the part of the artist, on this account greater efforts of artistic talents were required; and the greater the rolls

*In every school giving a general education there should be the necessary apparatus and other materials to carry out the above plan.

the works in art at a certain period played, the greater the exaggeration in them the pupils will find.

The general course of education, independently of the above mentioned theoretic knowledge of the development of arts, should give some practical exercises in them. For the reason, that a pupil finishing a general course of education should have generally developed all his faculties and talents, (having such general development he will be able to develop particularly some of his more advanced talents) he should get a practical foundation of all arts. Because all students have not equal talents for every art, (nature gives different talents to different men on account of the division of labor in society) therefore they will not make the same progress in every art, nevertheless they should exercise themselves in all arts, for such exercises help very much every particular talent and have a good influence on moral education. The question may arise that

exercising one's talent, given by nature in a small degree, will dull other faculties, which nature gave in a higher degree. This could happen by adopting too much pedantism; but not according to the system of which we will now try to represent some fundamental ideas regarding the training in arts.

In order to be able to produce a work of art, it is not enough to understand some of nature's proceeding and to tune the feelings correspondingly, but it is necessary, further, to be able to operate with some means, as, for instance, with a musical instrument, a brush, a chisel, a pen, etc., by which an artist represents, what he understands and feels.

Since in the intellectual education we should be careful in the first place, that the student would understand nature's proceeding and in his own words represent it, but not to compel him to learn by heart names, dates, and accepted formulas, hence in the exercising of one's faculties in arts, the in-

structor should be careful to have the student understand and feel this proceeding, and then liberally represent it by some means. Imperfection of the training in arts consists in too much pedantism, which makes machines of students, (as memorial work in intellectual education) but does not develop the artistic faculties. Take for an example a boy, who wishes to learn to play on a piano; the teacher immediately gives him written music and requires him to exercise in order to become a machine ably repeating what is written by note. This is not a proper method of teaching music, because mankind did not commence to play on instruments by note, but without written music, which was introduced a long time afterwards; and therefore a student learning to play on an instrument, should try to express his ideas and feelings in his own manner. It is the teacher's duty to correct his student without exaggerated strictness, (very often subjective).

The author does not object to the use of notes, but he objects to use them too early. The student being acquainted to a certain point with nature's proceeding and hearing the different musical reproductions, will gradually tune his feelings in a manner, that they will be more and more sensitive to nature's harmonious unity—the basis of objective beauty. Such should be the preparation of a student wishing to express himself by means of an instrument. After this he should acquaint himself with the instrument he desires to play; this acquaintance ought to be as independent as possible so that the student could perceive with his own forces the power of the instrument. The teacher's duty is to co-operate with the natural forces of the student. After the student becomes familiar with his instrument, he should not play scales and other exercises in written music, but he should try to express, through the instrument in his own manner, what he understands, feels and remembers from repro-

ductions heard at various times. In other words, he should realize in himself, in a brief manner, the processes of the development of music in humanity. To play by note from the beginning is like a house having external beauty, but a very weak foundation. It is certain that geniuses will overcome all difficulties and bad effects caused by improper teaching; but those having middle faculties will only become machines, when by proper instruction, they could become equal to geniuses or at least acquire great talent. After the student is sufficiently able to play without written music, not so composite pieces, then it is the proper time to learn from written music; then the teacher will gradually, but without pedantism, correct and show what is already conquered by the artists. Some music teachers may say that by not commencing to teach music by note and with such strict pedantism the student will acquire bad customs. Such saying is not without truth. Yet these so called bad

customs may be easily corrected by the teacher afterwards, and even by the student himself in his advanced work. The advantage derived by the above mentioned method will be so great that, comparatively, the injury done by the bad habits will be of little account. What we have remarked about music refers to the exercises of all other arts and, I suppose, by this example I am understood so, that it will not be necessary to give explanations of the exercises of each art.

In the course of a general education the student should be taught not only theoretically but also practically to a certain point, all principal arts of use and beauty. The pupils who have not received from nature better talents in this or the other art should *not* be excluded from the theoretical and practical study of this art. To those who show higher talents for arts the inspector should give special instruction so far as it may be required. A practical study, es-

pecially of useful arts, may be combined with physics, chemistry, geology, etc.

At about fifteen years of age the pupil should finish the course of the primary school and besides, having a general understanding of nature's proceeding in the different phenomena, he should be educated both theoretically and practically in the different arts. How much the primary school should furnish for the pupil's moral and physical education we will specify in the respective chapters. A man educated according to the manner above mentioned will be an excellent member of his family, his country and humanity. By the understanding of the proceeding of nature he will observe all phenomena in his own and other countries, and thus will try to understand what roll they play. Before entering the one or the other society, whether it may be of a social, political or religious nature, he will consider what roll the society plays in the development of the country; he will consider if belonging to

this society will produce a good effect to his country, then he will be able to criticise the different laws made by legislators. He will consider what roll the different religions play in the continuous development of society and then he will know how to proceed. The greater number of members of this kind a society will contain the faster a society will develop itself, because nature having strong help from the part of man in his proceedings, will not be compelled to produce such strong re-actions, which are sure to follow when the members of a society do not understand its (nature) proceeding and place obstacles in its way.

At least such a primary school course every child should finish no matter what position in society he will occupy. We hope the time will come when every citizen will finish such a course (or one similar) at the expense of the government. While taking the course of a general education the student should prepare himself specially for some particular vocation in life.

In order to prepare himself for the more difficult vocations in life, as: lawyer, teacher, physician, clergyman, etc., a student having finished the primary school course, and having a general education according to the above mentioned system, enters the high school which should have a four-year course. In the high school the student is required to study without any exception all the principal subjects he studied in the primary school, but more exactly. This is to say, that the student of the high school must acquaint himself with nature's proceeding more particularly than he did in the primary school. Although all students are required to study all subjects, attention should be given to the different intellectual faculties of the different students, so that those, who show natural inclinations and faculties to a certain science (to the investigation of nature's proceeding in a certain kind of phenomena) would be surrounded by special tutelage of the instructors in regard to the special

faculties and inclinations. They should also study other subjects but not with the same demand on the part of the instructor, as is necessary for other students, who have special faculties for such subjects.*

The course of the high school, as the course of the primary school, should be finished with the study of philosophy in which (study) *more* general laws and data should be considered more exactly than they were in the primary school. (We will discuss it further at the close of this chapter.) After finishing the high school the student may enter the university in order

* Nature gives different facilities to different men, because it is required for the division of labor in society. This division of labor causes progress and by the laws of inheritance produces the different mental, moral, and physical abilities in different men. In the primary and especially in the high school the instructor ought to be careful not to destroy some special faculties and inclinations by teaching with too much pedantism especially the subjects to which students have no inclination and for the learning of which they have no higher faculties. Some educators gave advice to teach a student in a manner to prepare him, from the beginning of his education, only for a specialist, and not to teach him other

to become a specialist in law, some natural science, theology, etc.

The reader may think that we propose too much substance to be taught in the course of general education, and, therefore, will be too much work for young people, thus producing a bad effect upon the development of their intellectual faculties. We would agree to this, if all subjects would be taught through the memory and the use of text books; but our idea is to train young people not through mere memorizing and storing the mind with knowledge, but through a process of

subjects. This advice does not seem to be good, because every specialist will be more perfect in his specialty when he understands at least generally nature's proceeding in all phenomena. Because no one can understand perfectly a part without understanding, at least generally, the totality. On the other hand, independently from being a specialist in something, every one is expected to perform certain rolls in the family, the country and humanity; but to perform well these rolls he should, at least, understand very generally nature's proceeding in all phenomena. Therefore everyone should acquire a general education, but in a way not to dull his special faculties and inclinations.

reasoning and, as far as it is possible, without the use of text-books. By such a process their faculties will be harmoniously developed, not excluding sensitive memory for, the less text-books are introduced the more it is developed. This method will interest the student very much, because he has natural inclinations for reasoning, experimenting, investigating, etc., and he has a hatred towards committing to memory scientific material.

It is necessary to mention that, on the part of the instructors, it is not enough for them to know a subject, but they should be able to excite an interest in students towards science. Neither the knowledge of the teacher (which is a necessary condition), his conscious work (another necessary condition), nor the admonitions given will educate the student, if the instructor is not an artist able to interest him. The teacher should be a true psychologist understanding the nature of the student, well; his wants, his desires, his feelings, etc.;

this understanding of nature's proceeding in the student will help in exciting his attention and will interest him. Besides this, the teacher should have special artistic faculties. The younger the students are the more the instructor should descend from his throne of authority and be like a child, so that the teacher of very young pupils is nothing else than an old child playing with the children, interesting them, exciting their attention, and, during the time of play, scattering grains of truth, which take root in their young minds without their being conscious of it.

Another necessary quality for a teacher is to love his vocation and pupils. In other words the teacher ought to have a larger heart than the average man. Generally we may say, that to be a true teacher, especially one of little children, it is necessary to have special qualities of mind and heart given by God for this purpose. One of the English philosophers said, that an educator should be a great philosopher and

in general, of an ideal nature. When an instructor loves his students they unconsciously feel it, and believe, and respect him.

During early life man leads himself similar to humanity in its early life. The younger, and more barbarous humanity was, the more it leads itself with instincts of sympathy and antipathy but not with reason (among beasts it is very apparent). As a barbarous man confides (trusts) only in what he sympathizes and in what is well disposed towards him, but not in that which, according to reason, is good, although it would be displeasing for a certain time to his nature, so a child leads itself in the first place with the instincts of sympathy and antipathy. If a teacher works with ever so much consciousness in cultivating the minds of his students, but is indifferent and cold in his relations with them and does not love them, his work will bring little improvement, especially in young children. He should, therefore, love his pupils and conciliate their confidence.

When a missionary commences to propagate the truth of the Christian faith among an uncivilized people, he first cares to give symptoms of love towards them; he occupies his time with the sick and helps the poor and needy. When he has reconciled his people in this manner, and when they feel that he loves them, then the work of conversion is comparatively easy. In a similar way the teacher should proceed with his pupils. If by corresponding symptoms of his love, he reconciles his young people, then he will see in their hearts a reflection expressing itself by their entire confidence, respect, submission, etc. Having a strong, moral influence on the nature of the child (which is better than the use of the rod or strong admonitions), he will be able to shape or model the child's nature as he desires. It may be remarked that the symptoms of a teacher's love should be in a manner, that the children will consider them as such. Sometimes a teacher loves his pupils very much and because of his

love and his sincere wishes for their welfare, he inflicts severe punishment by means of admonitions, the rod, etc. In this case, although he may love his pupils very much, his love is not understood by them and they consider him as their enemy. A teacher's kind heart and his understanding of nature's proceeding in the boy will find corresponding means to reconcile a good student's disposition.

Although much more should be said in conclusion of intellectual education, but because the limit of these essays does not permit it, we turn to a few points relative to a philosophical training in schools.

In representing the order of teaching the different subjects which belong to the course of a general education, we have mentioned the necessity of a philosophical training, because it helps to unite all ideas of one's mind, develops criticism in judgment, and makes a strong foundation for religion and morality.

We have already mentioned, that phi-

losophy occupies itself with the more-general laws and data and the most-general law and datum, so far as they may be investigated by man's intellectual natural forces. Philosophy develops its principles on the basis of the principles of the particular sciences and, having a true system of the Universe, is able to criticise the foundations of different particular sciences and their conclusions.

On account of, that human reason never was satisfied with the investigation of laws and data, but tried to investigate the essence of things, their beginning, their end, etc., a certain kind of philosophy was created, which may be called metaphysics. Every philosophical system, beyond strict scientific principles, is inspired with some metaphysic-idealistic or metaphysic-materialistic spirit. In some systems these tendencies are not strictly determined, nevertheless they incline themselves to the first or the second division.

Because the aim of philosophy is (especially after the division of sciences) to inves-

tigate general and the most-general laws and data (and basis of all laws and data) and because there is so much scientific material, there is a division of labor. This division causes philosophy to turn at one time to the investigation of general laws and data of nature, and another time, to the investigation of the most-general laws and data including the basis of all laws and data. The turnings in philosophy referred to are commenced, inspired, and guided by the metaphysic spirit existing in every system. And thus, when required by nature, turnings in society to more international affairs in sciences appears an inclination not to the observations and investigation of particular laws and data, but under an inspiration of the metaphysic-idealistic spirit there is an inclination to the general interest of sciences. In philosophy then, under an inspiration of the same metaphysic-idealistic spirit appears an inclination to the investigation of the more and most-general laws and data. Metaphysic-idealistic philosophy at

the time of the turning mentioned, transfers the human intellect to a religious field and produces a religious development.

When nature requires a turning in society to the development of particular social affairs then, in sciences, appears an inclination to experiments and investigations of particular laws and data. In philosophy at such times appears a metaphysic-materialistic spirit (or at least an inclination to it). During this period philosophy occupies itself only with nature's general laws and data and in its metaphysical speculations despoils Universe of all non-material elements. During similar turnings religious affairs are generally neglected. Through what we have said previously, we wish to express that the metaphysical element in philosophy (either metaphysic-idealistic element) or metaphysic-materialistic, being only temporarily (relatively to turning) help for the development of sciences, religion, and philosophy, is not a point from which a philosophical education ought to be commenced, because such point

should be composed of stable elements, but not of something only good for a certain time. These stable points in scientific philosophy as in every science may be only nature's laws and data (general, more and the most-general) and from these points one's philosophical education should be commenced.

But, because every science represents nature's laws and data therefore one may be trained in philosophy from the beginning of his intellectual education. This training ought to consist in the generalization of particular laws and data of nature in order to unite, gradually, the ideas given during the intellectual education.

In representing the different philosophical theories the instructor should carefully distinguish strict scientific elements from the metaphysical elements, either idealistic or materialistic. The scientific elements should be treated as something stable; the metaphysical as something unstable, neither right nor wrong, but a necessary help to the development of religion, sciences, arts,

etc. It is necessary to be very cautious not to force a man to be a materialist or a pure idealist, because the greater the number of such partialists we have, the stronger the re-actions which nature produces, will be.

The different philosophical sciences ought to be combined correspondingly with different subjects belonging to the course of a general education. As to logic, and especially as to its practical part, it should be combined with all subjects in order to train one's intellect in proper and critical thinking and especially in distinguishing between words of no meaning, and words representing something real. Further; one should be trained to express his thoughts in a clear, brief manner, using as few words as possible. During the last year of a course of general education (primary or high school course) some time should be consecrated to the study of philosophy when this subject ought to be treated particularly, but without compelling the student to learn by heart many names, dates (centuries are enough), titles of many philosophical works, etc.

The reader will notice that we did not make a distinction in the teaching of boys and girls, because we do not see a good reason for an essential difference in teaching them. Both sexes should help nature in the perfection of the internal and external conditions of our existence, and for this reason both should exactly understand, as far as it is possible, nature's proceeding. The slight difference in their intellectual education consists in, that they should be acquainted more particularly with some of nature's proceeding and with some arts relative to the rolls which they are expected to play and relative to the occupations in which they intend or expect to engage.

At the present time we have a reaction to the elevation of womankind. This turning is not something new in the history of the development of social phenomena, but it repeats itself when it is required for some perfection in societies. As in every turning, so it is in this one—the less the members of societies will understand

nature's proceeding in the development of different social phenomena, thus placing obstacles in its way, the greater will be the exaggeration in the different movements, and in this case, in the movements of woman's emancipation.

CHAPTER VI.

MORAL EDUCATION.

MORAL education, as we have defined it, consists in exercising inclinations in man to co-operate with nature in the perfection of all internal and external conditions of his existence.

The understanding of nature's proceeding, produces the intellectual education; helping nature in the perfection (development) of the internal conditions of our existence, produces the physical education, to which I reduce the helping nature in the perfection of the external conditions of our own existence.* In order to help nature in the perfection of either the internal or external conditions of our existence it is necessary to have an inclination to do so.

*Although there are many external and different kinds of conditions supporting and improving our existence, for instance: works of inventions, society, religion, climatic and telluric conditions, etc., yet helping nature in their development is nothing else than to promote them. Such promption we reduce to the physical education and term it physical external education.

This inclination is provided for by nature, but it does not operate equally in all actions of men. Where performance of actions not according to nature's tendencies produces instant resentment, there inclination to help nature according to its tendencies operates better; but where performance of actions not according to nature's tendencies produces not direct resentment, but produces it on an entire society and through the society on the individual not performing action according to nature's tendencies; or even where the resentment of nature is not immediately, but slowly produced, there the inclination to perform such action does not operate and does not urge man so strongly as in the former. The good understanding of nature's proceedings and nature's re-actions on individuals and entire societies for defective co-operation with its tendencies, compels man to perform well all his rolls; therefore an intellectual education makes man more inclined to co-operate with nature's tendencies. If sciences would be developed so completely,

that we could clearly perceive the entire proceeding of nature in the Universe, then man would have without any exertion a strong inclination to perform all his duties. But, probably, because human reason will never understand exactly the entire proceeding of nature and its resentments, for the bad performance of some actions, man cannot have a natural inclination to perform such actions for defective performance of which nature's resentment is not immediate and clear. By moral education he should develop his natural inclination in a manner that it would urge to perform even these actions, for which bad performance natural revenge is not clear and immediate. Although the basis of this inclination is natural feelings, nevertheless reason also takes part in it, as far as it shows man's duties and motives to perform them. As to duties, they may be understood so far as reason perceives nature's proceeding and revenges for defective performance. As human reason gradually acquires knowledge of nature's proceeding in the manner

of acquainting himself with some particular laws and data and afterwards surmising of more and the most-general laws and data, so in the understanding of his duties, he acquaints himself with some particular duties (of which knowledge is necessary for the conservation of his own existence) and then surmises the higher and the highest duties to his country, humanity and the Supreme law. After this surmising he turns again to the investigation of his particular duties. As it is probably impossible for the human intellectual faculties to know exactly the entire proceedings of nature so it is impossible to understand exactly all his duties, although he gradually acquires a better understanding of them.

Man is not satisfied to know some of his duties, (as he is not satisfied to know only some of nature's proceedings) and on this account he continually asks reason, but because reason does not reply, he turns to religion for an answer which replies more

or less exactly according to the truth it possesses.*

Because religion is a social phenomenon, it should be governed and developed, as far as its natural elements are concerned, by nature's stable laws. In the first degrees of the development of mankind, on account of the little scientific development, religion guides more particularly the human actions, but with the progress of human development, it has not such a task, because man, by the better understanding of nature's proceeding, performs his duties, being guided by reason. But religion can never become superfluous, because man will never understand exactly the entire proceeding of nature nor exactly all his duties, and human science will never be able to answer man exactly in this field.†

Religion also produces the benefit of developing a natural inclination in that it

* According to the Christian doctrine a truthful religion possesses truth from revelation.

† Besides this, man wishes to know God's proceeding in disposing of him after his death, and similar things to which science cannot reply according to its modern demands.

urges man to perform such duties for the defective performance of which he does not see a natural revenge. Religion develops inclinations in a manner that it tunes natural feelings (basis of inclination) higher and higher through its spirit, which inspires literature, art, science, etc.

Some ideas which we have tried to represent in this chapter were required as a basis on which we will consider moral education.

The aim of moral education is to educate a man in a manner that he will perform all his duties: animal duties, family duties, duties toward his country, humanity and his Creator (Supreme law). Some duties towards which he has a natural inclination he performs easier than other duties, which he may not perform according to the tendencies of nature, because not perceiving clearly nature's revenge for their bad performance, he has not a natural inclination to perform them.

In moral education the instructors very often fail in the same way as they do in the

intellectual education and the training in arts. In the intellectual education, as we have represented, they require the student at the beginning to learn by memorizing scientific formulas, names, dates, etc., but do not develop his speculative faculties in a manner so that he could with his own forces, only with the aid of the teacher, investigate nature's proceeding in order to catch, in a harmonious unity, the general ideas of the entire construction of the Universe. In the arts they also urge the student to acquire mechanical skill, but they do not care, that he would, from the beginning, develop the natural artistical talents, which should be generally cultivated before adopting special practice in one or the other art. In moral education we may find a similar defect. The instructors, without developing a natural basis of inclination, attempt to inculcate an inclination to the performance of one's duty only through the theoretical teaching or moral rules. Very often they lose much time and force by

giving the students nice sentences and saying, they should do this and that, and then wonder why they cannot obtain intended effects. They cannot obtain desired effects by teaching too early moral formulas, which the student cannot understand nor can be influenced by the formulas, because he has not a sufficient foundation.

In order to produce a strong foundation for the moral education, it is necessary to commence with the intellectual education. At the beginning the student should be acquainted at least with the most-general ideas, representing the proceedings of nature and its revenges. He might be practically acquainted with some resentments, which nature gives for defective behavior. For example: when a child feels some stomach complaint caused by eating unripe fruit, he should not be punished either physically or by harsh reprimands; but his instructor (parent or teacher) should illustrate his complaint as a resentment by nature, because his action was not according to the wishes of nature and of

God—the Supreme law; and that every time he will do a similar act, will receive such revenge. The instructor may represent that sometimes such revenges come very slowly and not only on individuals performing the action, but on entire societies. When the pupil does something, by which he receives a displeasure for bad behavior, the teacher should always proceed in a similar manner. By such proceeding natural inclination which by itself in similar cases compels man to behave well, will develop more and more so that it will urge to perform such duties for the defective performance of which natural revenge is not clear. The more a student will understand nature's harmonious proceeding by intellectual education, the more he will be persuaded of the necessity to proceed according to the wishes of nature.

But intellectual education is only one element of the basis of moral education. Besides, the understanding of nature's proceeding the instinct-sensitive part of man should be developed. The more

this part is developed the more he feels nature's Universal government; and even when human reason cannot answer to, how one should behave himself in some actions, then the instinct-sensitive part may guide him well. The means to develop this part, are arts, religion, and special training of the will.

Arts, by expressing with exaggeration through different means nature's proceedings and beauty, tune and subtilize the instinct-sensitive part of a man to a higher degree; on this account the student should occupy his time, liberally, in reading poems, seeing different theatrical reproductions, hearing music, viewing fine work in sculpture, etc. He should try to perform with his own forces the different productions of art above mentioned.

Religion by different contemplations and other means so enforces and subtilizes the power of instinct, that it helps the intellect in judging, by giving a kind of intuition. Religious means also civilizes very much the sensual part of man by eradicating

barbarian impulses, when they (means) are adopted, not mechanically, but with a necessary disposition, which consists in submiission to their action. Religion and arts being conjoined, as far as it is possible, shape human nature so that it approaches more and more nearly to a perfect life, the life represented by Christ.*

We have mentioned that for the development of the instinct-sensitive part of man a special training of the will is desired. In order to represent the necessity of training the will we must bring before the reader some ideas on the basis of which we will attempt to perform this purpose.

Among the natural laws we clearly perceive this one: That every species tends to keep all that was acquired at different times, otherwise continuous progress would be impossible. But since this beneficiary law of nature exists, man keeps not only good habits acquired by civilization of the

*Religion civilizes man also by supernatural means, but it will produce a better effect upon the human soul when the instinct-sensitive part of man will be better developed by the different natural means.

human species, but also some others acquired in different special conditions, which habits we call bad, because they are dangerous to society. These bad habits we may inherit from ancestors and through different circumstances surrounding our life. They incline man to do certain actions which are dangerous (very visible or not so visible) to the individual performing them; dangerous to societies and place the individual not in good relations to the Supreme law. Some of these habits, according to the doctrine of eminent physiologists and psychologists, incline man so strongly to some actions that they break his will (especially where it is weak). Such impulses are also natural, that is "not artificial," but they are not healthy and they are against natural universal government* and its Supreme law. That they are against natural universal government be-

*They may also play a certain roll in society because nothing exists in the Universe without its corresponding roll but natural universal government wishes to annihilate them so far as it is possible. We suppose it will become clear to the reader by an argument we will now propose.

comes clear by such an argument. Nature wishes to sustain an individual not only for his own pleasure, but for entire society, because nature cares more for society than for this or the other individual. As to single societies, nature wishes to sustain this or the other society, not only for the utility of this, but for the utility of entire humanity. Thus nature cares more for all humanity than for one or the other single society; it cares more for society than for one or the other individual of the same society. If it would be the contrary, that is, if nature, for instance, would care more for an individual than for society, it would sacrifice the interests of society for the interests of the individual, and it would sacrifice the interests of entire humanity for the interests of a society. This would be an unreasonable proceeding. Therefore nature cares for the sustenance of an individual, but so far as it is necessary for the sustenance of one or the other society; it cares for the one or the other society only so far as it is necessary for the progress of entire humanity.

Therefore, if a certain individual or a certain class of individuals in a society, under an impulse of bad habits, endangers others, it cannot be conformable with nature's general government, and it is nature's interest to react or gradually annihilate all such obstacles in its way. Nature does not wish to create bad habits in one, but they are accidentally produced by the action of some natural laws, whose tendencies are to carry out species to perfection. For instance, natural law of adoption produces; that a man, having not sufficient means for the sustentation of life, commences to live very economically; if he would not adapt himself to circumstances he could not live. Other laws of nature, for instance, laws of keeping and developing all the individual possesses produce that the economical habits of such a man do not annihilate but develop themselves and become avarice. This inclines him not only to deprive himself of his wants, but also not to pay his just debts. Through hereditary law such habits may

pass to children and incline them to perform similar actions. As we may notice by this example, nature's laws accidentally produce some bad habits. In order not to produce the habits mentioned, some beneficiary laws of nature should be suspended; but by the suspension of these laws the natural order would be destroyed. Therefore nature should proceed according to its stable laws, and some accidental defects, it mends or corrects by correspondent reactions. Therefore some tendencies of some individuals (the same with classes and societies) may sometimes be against truthful government of the entire Universe and its Supreme law.

We have very often repeated that man should proceed according to nature's tendencies, now we call attention to the distinction between tendencies of the individual, conformable with nature's general government and the tendencies or inclinations, which may appear in some individuals, not conformable with nature's general government.

We have already represented, that in one's moral education it is necessary to develop his natural inclinations to perform all his duties, so that it (inclination) would work also where nature's revenge for the poor performance of some actions is slow and not clear. We proposed for this aim the different means as the understanding of nature's proceeding, training of arts, and the adopting of religious means, etc. But, because we see that one may have some inclinations to perform some bad and dangerous actions, we should carefully distinguish them in a child and, in moral education, to eradicate these inclinations. The rooting out of such bad habits will help the above mentioned training in sciences, religion and art; but beyond this a special training of the human will is required.

We do not intend to write a psychological treatise of the will, because that would be beyond the limits of these essays; and therefore, not considering the nature of the will, its qualities and its beginning,

we affirm only that the will may be developed in a manner to become stronger and stronger. This has been testified by the biographies of great generals, statesmen, who developed their will power so completely, that they obtained great results with little means; great saints, who after exercising their will power were able to eradicate very strong inclinations towards performing bad actions and become masters who, independently, could govern not only their own wishes but also animal and vegetable functions, which in ordinary conditions man can never govern. Further, true magicians by exercising their will acquire such great power that they may eliminate from their bodies as large a quantity of magnetic fluid as they desire.

Psychologists of today perceiving the necessity of developing the will in moral education, counsel to use different means for this purpose, because they clearly understand that bad habits acquired by inheritance or some special conditions may be very much annihilated by a strong will.

The will should be developed from the earliest age. Training in arts, although it subtilizes human nature in a manner that it becomes very sensitive, yet by itself, it will not be enough especially for a man having bad inclinations. One's sensitive nature, not having a strong enough will may be easily inclined by bad habits to certain immoral actions, because such a nature easily, submits itself to all influences; and so we may find some artists who, although they have very sensitive natures, nevertheless practice a not very moral life. This is on account of their weak will. Hence by moral education one's nature should become very sensitive in order to be able to feel more; but at the same time the will ought to be developed in a manner to submit sensitive nature to good and resist bad internal or external influences.

The will, well developed, will also help the religious education because it will urge man to perform all his duties who, even being religious but having some bad inclinations, will not perform them on account of defective power of resistance.

Thus the elements of the foundation of a moral education are: First, intellectual education by which one, seeing nature's revenges, will strengthen his natural inclinations to perform his duties; Second, the training and development of the human instinct-sensitive part in religion and arts, will produce the effect that one will see those duties which reason does not see and will be inclined to perform them, although the revenge for the defective performance of them is not clear; Third, the development of the will power, by which man becomes master of his person, being able to eradicate evils and to submit himself to influences desired.

These elements, I believe, are the foundation of a moral education. All other means, for instance, the development of one's honor, love of country, love of God, politeness, and other excellent inclinations to moral actions, should follow and be based on the foundation represented in this chapter. If these means would be developed without the foundation referred to,

although they may sometimes produce good effects, very often they would be poorly understood.

A school giving not only higher general education, but even a primary general education, should not only care for the mental development of a student, but also for his physical and moral development. It is clear enough, how much development, moral education needs; it is also clear, on the other hand, that many schools of the present time cannot satisfy the demand of humanity, country, and the Supreme law. They teach some principles of morality, but is such theoretical training satisfactory, especially for the eradication of bad habits? The aim of schools is to improve the human race in every respect possible, but the schools cannot comply to this request, especially the eradicating of bad habits, because they have not the correspondent means. At the present time pupils spend from five to six hours per day at school during five days of the week. With the exception of one or two short recesses they study and recite

nearly the entire time they are at school, and at the close of the school day, they return to their respective homes to repeat the same task on the following day. This routine of work is continued from one day to another, from one year to another, during the entire school life. In such conditions nothing can be done towards eradicating bad habits. At schools, as they are now conducted, the instructors or teachers have no time, and at the children's respective homes the parents, being occupied with their employments, also haven't much time. Therefore, after finishing school the pupil may have some knowledge, but morally he has not improved much and in after life, by nature's terrible reactions or by the punishments of law, he gradually becomes better.

It is very difficult to imagine a new organization of schools that would be able to carry out our plan, which we hope will be realized in the near future; yet we feel assured, that with the progress of time societies will organize such schools. Our plan

is, that the public school, both high and primary, should be outside of the city—constituting, if you please to term it so, a children's city by itself—where the children could spend the entire day, we will say from 8 a. m. to 8 p. m. The reader may be afraid that we would require them to study all this time, but this is not so; on the contrary we would require them to spend less time in strictly studying than they are required to spend now.* This children's city would have gardens, halls of music, art, sculpture, painting, etc., manufactories of different kinds, and, in fact, everything that is required in life to make the child a complete citizen. The girls as well as the boys would be employed in the various industries correspondent to the rolls they expected to play in their future life. In this school, their moral, intellectual and physical education would be developed in every step they would take; they would be allowed to live a life similar

* We would have them eat their lunch and dinner at school.

to that in a society as far as it is possible; they would have a specified time for each occupation; and they would have an opportunity to attend religious exercises, to learn different arts, to do practical work in agriculture, cooking, manufacturing, etc. We propose to give them prescribed time to work, to play, to eat, to sing, to study, to worship, etc.

During this school life the boys and girls would associate and the instructors (psychologists) could observe all good and bad habits, which would make their appearance. Then the teachers would adopt different means, so far as science could aid in it, for the eradication of such habits.

It is understood, that the instructors employed in such schools should be men and women of an exemplary character, who would stand before children, (who are very apt in copying from their leaders,) as an example worthy of imitation. They should receive good and sufficient compensation for their work as a guarantee for devoting their entire time and attention to the profession.

We wish to state that the pupils would return to their parental home only to sleep, and thus being cut off from the world's society, they would see only the good side of life. The new generation being educated on such conditions will have every chance to improve society, because during the time of childhood (when the child is pliable) by proper moral training he will acquire possible perfection, which is so necessary to become a good member of society.

CHAPTER VII.

PHYSICAL EDUCATION.

THE physical education as we have defined it, consists in helping nature in the development and perfection of all conditions of our existence. These conditions are internal including all faculties of our person, and external those not belonging to our faculties, but bringing them to perfection.

We will consider in this chapter more particularly the foundation of physical internal education.

Because it is our duty to help nature in the perfection of our person according to nature's tendencies, for the reason that nature demands, on our part, co-operation; therefore, every one ought to comply with it. A child instinctly co-operates with nature in some proceeding in relation to its development, but it does not co-operate through reason on account of not understanding nature's proceeding. To aid the

child in this is the duty of the parents and especially of the instructors in school, because the parents who are usually employed with various occupations have very little time to consecrate for this purpose. In the physical development of the children the instructor makes very often some fundamental errors similar to the errors made in intellectual and moral education. As in the intellectual education, very often young people are compelled to acquire chaotically (without harmonious unity) scientific material, without spontaneous development of the speculative faculties and liberal consideration of nature's proceeding, on the part of pupils; as in the moral education young people are inclined to morality by theoretical teaching of moral formulas and by admonition for bad bavior, but the instructors not developing harmoniously the foundation of inclination for the performance of duty, so in the physical education, those who have the care of it do not co-operate with nature in the harmonious and liberal development of all of the

child's faculties from the beginning of its education. They chaotically develop some of them, and very often, even in not a very natural way.

We may perceive that children make different, sometimes curious movements with their limbs, body, head, eyes, etc.; they like to chew things of a strong taste, to listen to music, to see pictures and scenes, etc.; in summary, nature wishes to develop generally all their faculties. The instructor's duty is to co-operate with nature in this. This co-operation consists in permitting the child to act freely. He should be allowed to cry, run, skip, and play at his will. When we prohibit these natural exercises and attempt to make a grave man out of the child, we place obstacles in the way of nature in the physical development of the child. All kinds of artificial gymnastics, cannot equal the natural gymnastics towards which nature inclines children. During the time of recreations, very little time should be employed in artificial exercises, because

they usually tire children; but instead they should be permitted to play at pleasure. During the time of recreation the teachers should always be on guard against exercises that might produce physical injuries.

It should be remarked that before the special development of some faculties, all faculties should be generally developed. We find many people, who, for instance, are not able to sing, because either their voice or their sense of hearing was not properly developed, and we may find the same fault in not properly developing the other senses. For this reason a special time should be consecrated in primary schools for different exercises, performed liberally and without pedantism, to the development of the special senses—sight hearing, smell, taste and touch. The same should be observed in the development of the intellectual and artistic faculties. Besides this the children should be allowed to exercise different faculties, whether they are in school or at home. For example: if a pupil, especially in time of recreation,

wishes to cry, yell, or talk very loud; perform experiments or manufacture something in his own way, he ought to be permitted to carry out his natural inclinations according to his will so long as it is not injurious to himself or others. This will be real co-operation with nature which demands a general development of all human faculties before the development of a special faculty.*

Very much could be said on the subject of physical education, but the aim of this treatise is to call the reader's attention to the fundamental principles of a physical education according to which the public schools, before giving a special training of some faculty, should give a general training of all faculties. This training should be liberal without paying attention to accepted rules of etiquette, etc. After such general training according to nature's

* In reference to table etiquette, we will say that the children should have much natural liberty and not be forced to give such strict attention to etiquette as they generally are. They should be allowed to eat as often as nature demands it and, so far as it is possible, all kinds of food for which their appetite calls.

tendencies the instructors may give attention to the further and particular development of some forces or faculties for which nature provided more abundantly. This is also the time to give more attention to artificial gymnastics, polite gestures, erect posture, and other graceful movements of the body. The more, by intellectual education, a pupil will be acquainted with nature's proceeding and the more by moral education he will be inclined to perform his duties, the more he will co-operate, spontaneously, with nature in the development of his body and mind.

CONCLUSION.

EVERY citizen ought to finish at least a primary course in our public schools when fifteen years of age. In this course he should acquire, in respect to his intellectual education, at least a very general understanding of nature's harmonious proceeding in the physical, chemical, biological and social phenomena, including the principles of law and religion. He should be able to speak the English language fluently and have some practical knowledge of one or more other modern languages. His speculative faculties should be so completely developed, that his judgment would be clear and critical. All his artistic and physical faculties should also be developed in a general way, so that nothing given by nature would be neglected to help it in his total development.

With respect to his moral education he should acquire development of his instinct-sensitive part so that he would be sensitive

to all proceedings in societies and to discern easily the feelings and thoughts of others. He should always be ready to assist others and to perform all his duties, even by forfeiting some of his own comforts, having the assurance that nature will reciprocate; nevertheless we expect him to be able, intellectually and physically to defend himself against enemies. His will should be strong enough to submit or resist, according to his wishes, to intrinsic or extrinsic influences, and to systematically perform what he determines. Not being a partialist and having a broad intellect he will rather look for natural causes than at once condemn; thus, being kind and considerate, he will avoid offending his fellow being not only by actions but by words as well, because it is against the tendencies of nature. He will feel it his duty to love and respect his country, its customs, and, above all, the Supreme law.

The high school should follow a similar course to the primary, but more exact and to a higher degree of attainment.

Among the citizens of America we include people of the different nationalities, different religions and social ideas, talents, intellectual faculties, etc. Such rich material makes different preparations for the creation of a notable people. At the present time this material gradually combines itself by the different social processes until it becomes a harmonious unity. During these processes it is necessary not to perform, rashly and quickly, attainments which are apparently an improvement to society, but which in reality might produce different reactions in the development of the country. It may be, that education according to the ideas represented in this little work will partly aid in preventing reactions.

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